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THE ARGUMENT

FOR

STATE RAILROAD OWNERSHIP.

A TRANSLATION OF THE DOCUMENT SUBMITTED TO THE
PRUSSIAN PARLIAMENT BY THE CABINET IN 1879,
WITH A BILL GRANTING THE POWER AND MEANS
NECESSARY FOR ACQUIRING SEVERAL IMPORTANT
RAILROADS THEN OWNED BY PRIVATE CORPORATIONS.



NEW YORK :
PUBLISHED BY THE RAILROAD GAZETTE.
1880.



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THE UNIVERSITY OF CHICAGO

STATE COLLEGE OF AGRICULTURE

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INTRODUCTION.

For several years the question of changing the railroad policy of Germany from the "mixed system"—that is, a system composed partly of railroads worked by the state and partly of roads owned and worked by private corporations—to an exclusively state system has been warmly discussed, and finally decided in favor of the state system, which is begun by acquiring all the principal railroads of Prussia (not of the other German states) by the government of that country. When the Prussian cabinet submitted to Parliament in November, 1879, its plan for acquiring the remaining important private railroads in Prussia, it presented with the bill granting the necessary powers and means a long and elaborate document in justification of its action, which is probably the most important government document respecting railroads ever published, and the most complete statement of the arguments in favor of a state railroad system.

It must be remembered that this question has had the attention of the best minds in Germany for several years, during which the books and pamphlets published concerning it probably number hundreds, and that thus the government had the opportunity to make use of all that could be said on this side of the question. Being thus the formal statement of the reasons which have caused for the first time one of the great nations of the world to unite its railroads under government administration, we have thought it desirable that it should be put on record in our language, for the benefit of railroad men, legislators and students of the economics and politics of transportation.

ARGUMENT FOR THE BILL CONCERNING THE ACQUISITION BY THE STATE OF SEVERAL PRIVATE RAILROADS.

THE PAST RAILROAD POLICY OF PRUSSIA.

The present condition of railroad affairs in Prussia renders the completion of the State railroad system absolutely necessary. The idea of consolidating the whole of the railroads of the country into one enormous net of iron roads, connected together for the facilitation of travel and forming a single transportation establishment under government control, was, under the former condition of the Prussian code of railroad laws, incapable of expression. Although the nature of railroads as public highways was never ignored, and is indeed plainly affirmed in the law of Nov. 3, 1838, yet their real importance as great highways for the movement of armies and for universal intercourse did not become fully apparent until they had reached a later period of development. The inconveniences caused by the private management of railroads in consequence of the existence of a number of different enterprises of doubtful solidity and restricted working capacity, the abuse of their privileged position by their managers; the oft recurring resistance to reforms of public utility; the complication and for the most part arbitrary differences among the various administrative and working arrangements; the intricacy of the tariffs; the quarreling and extravagant expenditure accompanying the bitter competition existing among such a number of corporations have altogether caused the widespread injury to the public welfare that is inseparable from an extended private management of railroads. Meanwhile, on the other side, by the extended development of the government railroad management, another and a more favorable solution of the question was in preparation. The considerable increase in the government railroads that occurred on the annexation of the provinces acquired in 1866, and the establishment of connecting lines between the Eastern and Western railroads have proved the government railroad system to be unequivocally the best for Prussia, and it has gained thereby considerable ground against the so-called mixed system. The necessity has therefore become apparent

for providing fully for the public interests, not by regulating the operation of the private roads through legislative reform and state supervision, which do not promise to be effective, but by the abolition of the private railroad system and the union of all the principal inland railroads in the hands of the government. The conditions which, under the old railroad laws, would have rendered such a solution of the question impossible, have fallen into the back-ground. The greater extension and compactness of the territory of the country, the development of its financial strength, and the fortunate state of the national credit have proved favorable to those ideas which deal with a question of such weight and importance to the state.

As long ago as 1873, in the report of the special commission appointed to investigate railroad charters, we find these ideas expressed in the following words:

"In consequence of the extension and perfection of railroads that have already occurred, and that may be expected to a greater extent in the future, economical reasons and considerations point to the desirability of the ultimate consolidation of all railroads in the hands of the government."

Since that time this result has been greatly favored by the further improvements effected in the condition of railroad affairs. The extent of the government railroads has been nearly doubled—the extent of the roads worked by the government already exceeds the total length of the roads under private management; the inadequacy of government supervision, which can hardly be remedied, in regard to the growing inconveniences characterizing railroads under corporate direction, has added largely to the numbers of those in favor of a state railroad system, while the attempts to bring about reform by laws have shown the futility of hoping for a satisfactory improvement through legal measures, without trenching materially on established rights and interests. The government, therefore, did not hesitate during the debates over the budget at the last session of Parliament to intimate to the members of the investigating committee that the ultimate aim of the railroad policy was the realization of the state railroad system, with a prospective view to the introduction of an act empowering government to acquire such private railroads as might be desirable.

It may be safely said that, to an impartial judgment, it is certain that the question whether the state railroad system is desirable for Prussia is no longer an open one; it is already

decided in the affirmative. And although the unsettled state which the existence of powerful independent corporations in competition with the normally growing governmental railroad system will cause must be tolerated for a longer or shorter time, in consideration of the financial convenience of the government, it is impossible, as well as incompatible with the interests of the country, to maintain them permanently, and they would in addition be a source of economical injury of serious import.

Although after the above justification of this system it may hardly be thought necessary, we will endeavor in the following explanation to pass in review the chief points which have influenced the government to adopt and carry out the state railroad system.

I.

THE STATE RAILROAD SYSTEM AND ITS DEVELOPMENT IN GERMANY AND PRUSSIA.

The development of the railroad in modern civilized countries has been dissimilar and disproportionate, according to the conditions and peculiarities of the various nations.

The wealth of the country and the density of its traffic have determined the extent of the outward development; while its natural conditions, its relations, the peculiar characteristics of its people and the nature of its institutions have determined the method of that development.

In England and the eastern portion of the United States, the extensive commerce and great wealth prevalent have developed the railroad system to an extent that Germany in its present condition cannot attain, nor do her necessities demand it. The magnitude of the arrangements for the dispatch of traffic, the frequency and high speed of the trains and many other of the operating arrangements of the railroads in those parts, are only warranted where the wealth of the country furnishes the means for such an outlay, and the augmented expense is covered by a corresponding increase of business.

The extent of this development is by no means to be ascribed to the effects of the system under which it has occurred. The latter is the result of the domestic and foreign conditions and relations of these countries, of the national character and state institutions, and, in fact, of the internal economy of the countries. The geographical positions of both England and North America render the national defence

of secondary importance in considering the system of railroads, when compared with the requirements of commerce—the commercial and industrial element in the population of both countries is vastly the most influential. In both countries, the government's care for the public welfare is narrowly limited. The furtherance of personal interests is left to the individual, the advancement of common interests to the narrow circle of those immediately concerned. In both these instances, the great independence and capacity for action of the individual gives the widest scope to private initiative, and renders the intervention of the government superfluous. It may thus be understood how private railroad management, in spite of the efforts made of late years to combat the theory, is thus credited with being most favorable to the perfection of railroad development.

It is otherwise in Germany, where different conditions have altogether changed the direction of development. The national defense, which, owing to the geographical situation, is of grave importance, the influential, if not paramount, military and official element in the population, the fostering care of the government for the public welfare in every department, the lesser effective capacity of the individual—all these circumstances point to the government as the most suitable conductor of enterprises, particularly as the political constitution of Germany presents grave difficulties to private railroad undertakings. As early as Nov. 3, 1838, this view occurred to the revisors of the law regulating railroad enterprises, and they were only influenced by political considerations then existing, and ignorance of the importance and financial range of railroads, in giving scope to private railroad ventures *provisionally*. Formed by circumstances, 'state railroad management has manifested a more vigorous development as compared with private railroad management. Until the year 1850 the railroads in Prussia were under private control exclusively, with or without financial assistance from the government; from that period, with the removal of the before mentioned political difficulties, the government makes its appearance as a railroad proprietor, partly by building or purchasing on its own account considerable lines of railroad (often because no capitalists could be found willing to take up the enterprise), and partly by assuming the management and control of private railroads for account of the owners. Thus we find by the side of the private railroad management a state rail-

road property of growing proportions, though not formed into any system. Out of this confused state of affairs arose gradually the so-called "mixed system," which owed its origin to the efforts made to transform this disjointed, unsystematic condition of the state railroads into a well arranged and serviceable transportation system of leading lines, securing to the state a controlling influence in the conduct of transportation. The necessitous condition of certain private roads, in themselves eminently unfitted for private management, as well as the liberal means placed at the disposal of the government in 1870-71, in the shape of the war indemnity, favored the tendency toward a well-planned extension and constitution of the state railroad system. In this manner, out of the so-called "mixed system" arose naturally a majority of roads under state management, bearing in itself the reasons for its progress, and which will eventually result in the final transfer of the great controlling lines of private railroad into government hands. According to the method of development which is demonstrated in the foregoing explanation, the pure state railroad system for all leading Prussian roads will be the ultimate phase into which the present unsettled condition of railroads will find its solution.

DEVELOPMENT OF THE RAILROAD IN MODERN CIVILIZED COUNTRIES—TENDENCY TO CONCENTRATION.

In order to recognize the final aim of the national railroad development as an absolute necessity demanded by circumstances, the evolution of the railroad system in the principal civilized countries necessarily comes under observation.

At the first origin of railroads, the extent of the individual lines was confined to a length of barely 90 to 140 miles. The number of these independent corporations was rapidly increased, however, as soon as they were found to be paying undertakings, the rate of increase being about proportionate to the increase in mileage. The necessity for the establishment of direct communication between the chief traffic centres, by agreeing upon through trains and tariffs, and the consequent negotiation necessary between the different corporations respecting interests and arrangements common to all, soon made manifest the difficulties connected with a large number of separate managements. To this came the experience that with the extension of the administration the general expenses were proportionately reduced, and the


constantly demonstrated superiority of the lines under one management over those made up of a number of short roads, with their attendant disjointed direction, with which the former came into competition. In addition, therefore, to the extension and greater proximity of lines in the already-existing network of railroads, in addition to the constant starting of fresh enterprises, we find an early tendency to a fusion of the separate corporations into great systems. The nearer the construction of the network of the trunk lines approached completion, the more marked this tendency became. The avoidance of unnecessary outlay and unnecessary friction, and the necessity for a quicker and more simple agreement respecting matters common to the different lines interested, the formation of through routes for the principal currents of traffic, and last but not least the superior influence naturally exerted by the more powerful corporations over the smaller companies situated in their vicinity, all these circumstances have assisted in bringing about the consolidation of ownership, conduct or interests, which has resulted in a diminution of the number of independent administrations. In the countries where the private railroads prevail, we find a few great corporations that have gradually absorbed the other smaller ones. In those countries where a strong state railroad administration has been developed side by side with the private roads, the government has naturally had an important share of the smaller roads thus absorbed. In all countries which possess a fully-developed system of railroads, we shall be able to observe the gradual completion of a few great railroad systems, beside which, with the exception of secondary branches for the accommodation of local traffic, no new enterprise of any importance can be undertaken. Only in France, in consequence of peculiar events that have lately transpired, state railroad administration has attained a position by the side of the private lines that promises the possibility of a vigorous development in the future. On the other hand, in Belgium, Bavaria, Baden, Wurtemberg, Saxony, and latterly in Prussia also, it is the government through which the concentration of railroads, as demanded by the age, is consummated. In Austria, Italy and Russia, also, we find that this process has already commenced, although the more backward state of the railroad system in those countries has not yet made the necessity so pressing.

We may see therefore that from the period when the de-

velopment of the railroads and the augmentation of traffic have reached a certain limit, the phenomenon of the fusion of the roads into one or a few great transportation systems makes its appearance. This appearance points unmistakably to a necessity, founded in the nature of railroad operation and the requirements of railroad traffic, of a single administration within a certain district. Whether this consolidation be left in the hands of private companies, or whether it be undertaken by the government, we must acknowledge that we have on one side the advantages that accompany unity of operation and administration, on the other the disadvantages that experience shows division and diversity in the railroads bring with them, both operating in furtherance of the realization of the constantly growing tendency to consolidate the lesser with the more important enterprises, and bringing us nearer the final object; the formation of one grand system of intercommunication under a single direction.

GOVERNMENT PROTECTION OF SUCH PUBLIC INTERESTS AS ARE AFFECTED BY THE RAILROADS.

The railroad laws of all countries are founded on the experience, that the most important public interests are affected by railroads, and the responsibility of the protection and advancement of these interests rests with the government. For this reason we find imposed on the roads, with their legal privileges, a number of obligations respecting their construction, operation and administration, by which the otherwise free inclinations of the proprietors are limited in the public interest. In all legislation the railroads are, therefore, placed under the supervision of the state, the officers of which are granted well defined and regulated authority for the protection and preservation of public interests. None of these legislative measures has been limited to this indirect supervision by the state however; in every case, in addition to providing for the careful regulation of the railroads in their relation to public interests, the idea is foreshadowed that this regulation may not suffice for the purpose intended, that at the same time some other way must be kept open by which the government may provide effective protection to the public interests; that their future development may demand instead of the indirect supervision the direct administration of the railroads by the government. In all laws relating to



this subject, from the earliest initiation of railroad enterprises, the idea has been incorporated and is expressed in many different ways, that the possible acquisition of all roads must be reserved as a government right, whether it be arranged by act of legislature, or in return for several privileges granted, that on the expiration of the concession,* after the lapse of a certain time, the line is to become government property; or whether it may have been stipulated that after a certain stage of development of the separate private railroads has been attained, the government shall have the right to acquire them on payment of a previously determined sum of money. To be sure, these arrangements have, so far as is known, not yet been practically carried out, either because the stipulated period of time has not yet elapsed on the expiration of which the government rights come into effect, or because the legal or agreed conditions respecting the means of acquisition have not proved advantageous to the interests of the government.

In spite of this, the experience of the inadequacy of state supervision for the protection of public interests concerned has caused the question of the advisability of transferring the railroads to the government to be by degrees raised universally. In the proceedings of the legislative bodies and in the reports of investigations instituted by governments, in discussions in the public press, and in countless pamphlets and treatises, this same question has been the subject of exhaustive discussion. Already we find in the railroad policy of many of the European countries a tendency by appropriate acquisition of private roads to placing railroads in the hands or under the predominant influence of the government. Recent events in Bavaria, Saxony, Belgium, France, Italy and Austria† have shown in the national policy the extent and importance of this tendency to turn the railroads over to the state. In Prussia this policy has been encouraged by the great extension of the state railroads of late years and the approval of last year's Parliament, and it only remains to be determined what time shall be fixed for the completion of the system.

It is evident from the foregoing that, in legislation, in the

* In most European countries one of the provisions of railroad charters is that after the expiration of the period of concession (which in France is 100 years) the road shall become the property of the government.—TRANSLATOR.

† They will be found elsewhere treated as a separate subject.

current of popular opinion, and in the policy of the different states, the opinion is being urged more forcibly than ever, that railroads are of such extended and constantly increasing importance to public welfare that they cannot be permanently abandoned to private management, but should be placed in the hands of the government.

In the development of the railroad system, as we have endeavored to explain above, the following appear unmistakably as the ends which it is expected to attain:

1. Complete unity of administration and operation within a certain commercial district with government boundaries.
2. Direct attention by the government to public interests, which do not permanently find sufficient furtherance and protection where the railroads are in the hands of private corporations whose object is gain. Just as clearly as we find these aims expressed in the foregoing explanation of the development of a railroad system, are they manifested, on close observation, in its peculiar nature.

The exigencies of railroad management and the commerce these roads are expected to foster demand the consolidation of the owning, administering and operating powers into one paramount authority. Meanwhile, with the growing importance of the public interests depending upon railroads, the inadequacy of private management and state supervision becomes daily more obvious, so that the problem of taking the chief management of inland railroads into its own hands is imperatively forced on the government.

ADVANTAGES OF A SINGLE ADMINISTRATION OF ALL THE RAILROADS OF THE COUNTRY WITH REGARD TO CONSTRUCTION.

(a.) DISADVANTAGES OF COMPETITION IN BUILDING.

The advantages of complete unity in the management and operation of an extended railroad system controlling traffic territory enclosed within state lines, compared with the economical disadvantages resulting from the piecemeal direction of different managements strung together without system, are so considerable that they not only outweigh the highly lauded but supposititious advantages of competition, but, in the end, cannot be dispensed with without serious economical injury to the country concerned.

This question we can now leave, to discuss the enormous waste of the national wealth which is caused by the competitive construction of different railroads in the same traffic

district. As soon as the system of leading railroads in the interior can be regarded as pretty nearly complete, such capital as may be invested in the construction of superfluous roads may be regarded as lost, without taking into account sums that may in the future be thrown away on the construction of unnecessary competing lines. Although it is hardly possible to estimate the amount of money thus wasted, still the loss and the waste of national wealth thus occasioned must not be underrated. Many and extensive lines, numerous and costly structures (bridges, stations, etc.) have been constructed at an expense of hundreds of millions [of marks], solely to insure the independent development of already-established enterprises, or in order to exercise competition, or to meet competition that may have arisen. Although we cannot regard all these works as absolutely unproductive, they nevertheless entail a deplorable waste of the national wealth, as the money expended on them has been withdrawn from other and more useful public enterprises.

With these direct losses, entailed by competitive railroad construction, these evil consequences are by no means at an end. The hasty and precipitate competition of the different railroads has contributed not a little to the over-production from which our commerce and industry still suffer, and may long be subject to. Innumerable industries are to a great extent dependent on railroad construction and operation, so that over-production in this department naturally recoils on the manufacturing interests. This precipitation, the hurried competitive construction, the excessive production of railroad supplies, have disarranged the standard by which the normal development of railroads is judged, and have given rise to the extension of investments and operation in all industries connected with the construction and operation of railroads far beyond their requirements. It would not be unjust to attribute to this senseless competition in building during the period of original construction a good share of the blame for the present business depression, a depression which would have affected the national industries still more severely, if the government had not stepped in, and with the means acquired by a fortuitous train of circumstances, began to build considerable additions to the state railroads, and thus infused new life into the almost prostrate industries.

It would be far from safe to accept the theory that the disadvantages accompanying competitive construction are no longer to be apprehended as soon as the construction of

the main lines is regarded as finished for all conceivable time. The question of the activity of a railroad in construction is by no means to be considered disposed of when the line is opened for traffic. At this point a new task is begun, namely, to utilize as completely as possible the lines constructed within the territory they include. For this purpose, the connections of sources of traffic situated on either side of the road have to be established and improved. Factories, industrial establishments, coal-pits, mines and quarries of all descriptions are to be connected with the main line by the construction of side-tracks. For transshipments from the cars to vessels and *vice versa*, side-tracks, terminal facilities at harbors, transshipping arrangements of all kinds are necessary to complete the connections. At such points on the line as may be desirable for receiving traffic, stopping places must be established or new stations built, according to circumstances; with the growing traffic, the arrangement of the depots, the sidings and other structures must be altered and enlarged, and through the country contiguous to the main line local branches must be run to afford a market for the country's produce, and provide means of intercommunication for commercial and growing localities, in short, to arrange the many different contrivances which tend to stimulate local business and develop the full value to the railroad of the district through which it runs. The expenditure that occurs for building purposes of this description, after the road has been apparently fairly opened, absorbs a considerable and proportionately large share of the total capital devoted to construction. It will readily be seen how competition can cause an enormous waste of capital in this respect, where in industrial districts like those of the Upper Silesian and Rhenish-Westphalian coal fields, it determines the policy of construction of several corporations which are all trying to do the same task. The closer together the competing main lines are, the more intricate are the crossings and re-crossings of their side connections and branches, and the greater the cost of construction. The cost of land is increased immeasurably, and the unavoidable provisions for the safety of working call for a constantly increased expenditure. Costly passages of one line over or under the others take the place of level tracks and level crossings of highways and other railroads. The expense of the signal and safety apparatus is also considerable. It is only necessary to glance at the map of the Rhenish-

Westphalian coal fields, in which the lines of the three great Rhenish railroads with their hundreds of branches and connections with the pits, mines and industrial establishments cross and recross one another in an apparently inextricable manner, to realize what a squandering of capital has taken place in the construction and operation of such a tangled net-work of roads, the condition of which is due, not to the demands of commerce, but to the competitive tendencies of the projectors. The entry into the coal fields of the Westphalian Railroad, by the continuation of its line from Weller *via* Dortmund to Oberhausen, would entail for the establishment of connections with the neighboring mines and works a fresh waste of several millions of capital. There remains no doubt that the requirements of traffic might have been provided for by the outlay of a fraction of the capital expended in construction, if a well planned, connected single system had taken the place of the competitive constructions undertaken in consequence of the conflicting interests of the different constructors. With the creation of new works and the construction of new branches and connections, this expenditure of capital uselessly employed and lost to the country will be increased, and likewise the working expenses must increase continually by reason of the greater complication and number of the lines.

(b.) WITH REGARD TO OPERATION—DISADVANTAGES OF A DIVIDED AND COMPETITIVE MANAGEMENT—OF THE DIRECTORS, NUMBER OF OFFICIALS AND BUSINESS TRANSACTIONS.

The loss to the nation in consequence of the useless squandering of building funds in competitive construction is thrown into the shade by the daily increasing disadvantages that constantly result from the independent management and operation of the different roads from the want of a systematic connection of the several railroad districts. We have here to do, not with a single loss which might be lived down in the course of time, but with a constant increase of working expenditures that keeps down the income from railroads, and with a continuous annoyance to the public.

In Prussia we find in the year 1877 50 independent railroad managements, in addition to which there were 45 supervisory councils of joint-stock companies, controlling collectively 17,948 kilometers, [about 11,150 miles] of railroad in operation, giving each management an average of about 359 kilometers [223 miles]. If we consider only the roads under

independent private management, we find 39 managements with a total length of 9,648 kilometers [6,000 miles], or an average of 247 kilometers [153 miles] each, and among them we have no less than 12 companies operating less than 100 kilometers [62 miles] of railroad. Not one of these roads forms in itself a complete system with an exclusive, independent traffic territory; but the different lines rather run in motley confusion alongside of or across each other.

It stands to reason that such a multiplicity of independent administrative machinery, comprising directories and supervisory councils, with their considerable salaries and perquisites, with their central offices and liberal staff, the personnel of which may often be counted by hundreds, (in 1877 there were in Prussia 8,518 officials and operatives with a total income of 16,212,836 marks [\$4,050,000] employed in the general offices of the Prussian railroads), are the cause of an outlay that might be reduced to a very considerable extent from its present amount, if the roads were under a single organized management. It would indeed be by no means possible to transact all the business now in the hands of different authorities in one place and at the same time; on the contrary, not only could local officials be responsible for direct operation, according to the nature of the business, but the complete centralization of all other administrative business would be avoided as neither useful nor practicable; yet with the number of managements the task of management would be appreciably simplified. With the abolition of the joint-stock companies all the expenses would be avoided that are incurred by the directors on account of general meetings, auditing accounts, fixing of dividends, etc. Far more considerable is the labor demanded in consequence of the reciprocal business intercourse necessarily accompanying a number of independent managements. It is in reality the chief work performed by directories. It can hardly be realized to what an extent the correspondence and consultation necessary for the achievement of this object is carried. The negotiations respecting mutual tariff regulations or similar traffic arrangements, the detailed statements of claims arising in the business of roads associated in "lines," the agreements concerning the use of cars, on management at transfer stations or other common concerns, the time-tables and the conduct of traffic, the disputes of the various competing lines—all these transactions require an expenditure that would be avoided where, as in a single

organization, such questions would all be referred to the same authorities.

TARIFF ARRANGEMENTS.

Prominent among those regulations forming the subject of public complaint, and imposing an amount of extra labor on the management itself that cannot be imagined except by those concerned, we find the number of rates and combinations of rates employed in freight traffic, often arbitrary, complicated, confused and varying. This evil will remain without remedy as long as a number of independent organizations exist, each exercising the right to make all such arrangements on the lines of road it controls. If it is found difficult to effect among the directors a minute agreement, either verbal or by means of correspondence, respecting the principal features of the tariff, which must include not only the tariff proper but also the determination of what the shares of each road shall be in the freight receipts; how much more time, labor and expense must be expended in the execution of such mutual agreements? After the bureau of tariffs has fixed a schedule of rates which is to be published, we have to undergo the waste of time incurred by the tedious calculation at the hands of the accountants as to how much shall be allotted to each road in the combination. Is the schedule luckily published and not perhaps rendered obsolete by new resolutions of the associated roads, we next undergo the adjustment operation, which consists of a minute calculation, undertaken at stated periods, generally monthly, as to how much of the total receipts each road in the combination is entitled to. It is in these tariff and accounting offices that we find a whole army of officials, which with a single administration could not be wholly disbanded, it is true, as it would be required to compute the receipts of the different receiving points, yet could be reduced in number by at least one half. Some idea of the waste of power caused by these computations may be obtained from the following figures: The German railroads possessed in addition to 63 artfully arranged local tariffs, with their various classification, numerous exceptional and special tariffs and clauses, 184 general tariffs for the through traffic interchanged on the German railroads, 351 special rates for particular articles of freight, and in addition 199 general tariffs for international through traffic, with 314 special rates for particular articles of freight. The total receipts of

the Prussian railroads from their freight traffic alone in 1877 was 373,419,716 marks (about \$98,354,000); almost two-thirds of this amount, viz., 245,265,634, was from interchanged freight, and only 128,154,072 marks from local freight traffic. In consequence of this complex system of accounts, it not infrequently happens, in spite of the enormous number of employés, that months, often a year, will elapse before the shares of each road in a certain tariff are properly determined. It has even happened repeatedly that a schedule of rates has been out of date for months, before the prospective shares of the roads concerned could be determined.

TIME TABLES.

Similar inconveniences to those arising in the freight department occur with the passenger traffic of railroads, in consequence of the division and unsystematic arrangement of the different managements.

Here we have a state of affairs that more closely concerns public interests and convenience. We refer to the arrangement of the passenger train schedules. The preparation of a joint time-table for the main lines of travel and their branches, with suitable connections, forms a semi-annual task of railroad conferences. The time-tables for the next six months are founded on the conclusions reached by these conferences. Such a periodical regulation of the time schedules is the cause of a constantly recurring series of difficult and tedious proceedings, in which, as may be supposed, each road has its particular interest at heart, and is disposed to avoid, as far as possible, any sacrifice of its own to the public interests. In spite of the frequent waste of time, money and labor demanded to achieve a harmonious time-table, the result is often far from satisfying the reasonable desires of the public, so that complaints never cease of insufficient connections, and of the narrow-minded and reckless pursuit of their competitive interests by the different roads. A removal of these disadvantages, and the possibility of arranging a time-table, without delay or difficulty, that shall not be brought by competitive interests into collision with the public welfare, can only be secured by a thorough unity in the management and operation of the railroads.

ADJUSTMENT OF CLAIMS.

To what extent a proper transaction of business is hindered by the profuse correspondence and red-tapeism conse-

quent upon the existence of a number of small corporations is plainly shown in the adjustment of claims arising from the through traffic of connecting lines. The time occupied in the adjustment of a claim made for a traffic in which several managements are involved is well known to the commercial public by the time they generally have to wait for a settlement. That this delay is not caused in many cases by procrastination is hardly understood, but it is more easily realized when we remember that the settlement requires an agreement of all the roads involved. It must be subjected to a minute test and examination on the part of each road, as far as the object of inquiry relates to the part of the route it controls. That these negotiations, in spite of the contracts existing among the German railroads with respect to the adjustment of such claims, as well as the distribution of the responsibility for damages and lost baggage or freight, in important cases seldom ends in an agreement among the different roads as to each one's share of the responsibility, is readily explained by the many conflicting interests. Often enough a judicial decision is found necessary to bring about a settlement between quarreling managers, which could never happen were the managements undivided.

TRANSFER STATIONS.

In addition to numerous offices for the adjustment of claims, with their dozens of officials who occupy themselves exclusively with the transaction of such business, the managers require for the possible obviation of such claims a further and not inconsiderable increase in working expenses to provide the arrangements made by each road at its junction with another to secure the proper transfer of all freight and baggage. Even this increased expenditure includes only a portion of this unbusinesslike and totally unnecessary outlay, caused by the unpractical and unsystematic crossing and entanglement of the roads belonging to different systems. In Prussia alone there are 175 stations where different lines come in contact, and where a transfer of passengers and freight from one road to another takes place. These figures do not include frontier transfer stations, the depots of the Berlin Junction Railroad, and those points where only state railroads come in contact.

At a large number of these transfer points, the working force of each of the different roads (we find frequently three and four, sometimes even five roads running together,) is

separate and independent. Often the depots are separate, and, to the great inconvenience of the traveling public, situated at considerable distances one from another. At other depots we find in a common depot building that each road has its separate ticket office, a separate baggage room and often its separate waiting room. Separate freight depots with their special loading apparatus, separate freight houses and freight offices, together with their own switching yards, costly of construction and operation, are found where one of the stations would be fully sufficient to accommodate the traffic. Every road has its own switching service with separate officials, its own reserve locomotive service with its own locomotives, its own car inspectors who at the same time inspect the same cars! It sometimes happens that the managements are constrained to avoid senseless outlay to organize a single coöperative service at one or a few stations for certain branches of the service. If after long negotiations they succeed in arranging an extended and complicated system of general service, it is a source of constant and costly calculation and uncomfortable quarrels. By simplifying this transfer service, almost universally provided with double the required working force, by the establishment of practical working arrangements and by the consolidation and rational distribution of the service, large expenditure may doubtless be avoided, although it is not possible at this period to give the exact figures of the saving that could be effected at the 175 Prussian transfer stations, if the railroad service were under a single management.

DISPOSITION AND UTILIZATION OF CARS.

The evil consequences of the division of railroad property make themselves felt to a further extent in the lack of a common stock of cars. We find that in addition to owning the road, each corporation has its own cars, and expects to exercise absolute control over their employment for its own private interest. It is true that in accordance with the directions included in Article 44 of the constitution of the German Empire, the transfer of rolling stock from one road to another must be permitted on payment of an agreed price; and an arrangement has been made concerning the reciprocal use of the cars by the so-called "Car Regulations"*; but, in

* See the *Railroad Gazette*, page 198, 1879, "German Regulations for the Interchange of Cars."—TRANSLATOR.

consequence of the multiplicity of owners, this does not obviate the necessity for an increased number of officials, and only allows of an incomplete utilization of the cars.

It is evident that the use of the rolling-stock by another corporation could not take place without payment; on the contrary, a certain compensation must be secured to the owners, which compensation, by the "Car Regulations" before mentioned, is made up of a time and mileage rental; the first providing for the loss to the owner during the time the car is withdrawn from his employ, the latter being compensation for the wear of the car, and computed according to the distance the car has run. In order to calculate this car hire satisfactorily to both parties concerned, it is necessary to keep an accurate record of the time and distance the car has run on foreign roads. Accordingly, it is necessary to record the transfer station where the car goes on to the connecting road's track, and the point on that line where the car starts on its return journey, as well as the time of arrival and departure of the car; this is then reported to the accounting department. How considerable this reciprocal use of cars has become may be gathered from the fact that of the 12,333 freight cars owned by the Rhenish Railroad Company in 1878, an average of 2,798 were running daily on other lines, and that the number of Rhenish Railroad cars transferred to other lines, or foreign cars received by the Rhenish Company, was 2,347 daily. With a single operating management of all railroads of the country, the noting and reporting of these cars, as well as the occupation of the officials employed in managing this business, and the central accounting department, by which in 1877 for the Prussian railroads alone claims representing 15 millions of marks [\$3,640,000] in car rent were liquidated, could be dispensed with, so that only a few officials would need to be retained for the purpose of securing the proper circulation of the cars through the whole united system. At the same time the expense and delays to traffic due to the fixing of the amount of car damages and the liquidation of the cost of repairing cars, which necessitates the presence in the shops of the several companies of a large number of officials, could be dispensed with.

To what extent the reasonable utilization of the cars is retarded by the multiplicity of owners, and how much the working capacity of the rolling stock is reduced in consequence, may be learned from the following figures: In 1877

the distance traveled by the car axles in their revolutions, on all the Prussian railroads, amounted to 3,681 millions of kilometers [2,286,000,000 miles], during a period corresponding with 2,338 millions of kilometers the cars to which the axles belonged were loaded, and during 1,343 millions of kilometers of revolution they were empty, showing that one-third of the travel was made with empty cars. The united Magdeburg & Halberstadt and Hanover & Altenbeken roads made a still poorer showing; 175 million kilometers of the total distance run by their axles were under full and 103 million kilometers under empty cars.

It is, to a certain extent, an established and hardly changeable condition, that the bulk of the freight in any district moves in only one direction. Coal-fields, in the neighborhood of which we often find an important iron industry springing up, send their products in all directions, but a return freight, in any quantity, for coal-cars is very seldom procured. Large cities receive their supply of live cattle in cars constructed specially for the transport of animals, and hardly capable of use for any other purpose: they must all be returned empty. In the neighborhood of the seaport cities it has been observed that the inequality existing between exports and imports is the cause of the cars running empty one way and full another. The chief cause of the imperfect utilization of freight cars, however, is the restricted use to which they may be put when running out full and returning empty. In busy times, when the roads are haunted by a dread of a lack of cars, each company seeks to secure the return of its cars from others as quickly as possible; while, when the times are dull and rolling stock in excess, they hurry the cars from other companies in and out again in order to save as much as they can on rent.

These considerations have led to the regulation of the reciprocal use of cars within the limits of the German Railroad Union.* According to directions embodied in Art. 44 of the Imperial Constitution, already referred to, cars, when once loaded, must go direct to their destination, reloading on foreign lines being confined to freight for transportation to stations on the home road, or some station on the route to that road.

The bad effect of these directions, unavoidable under the present state of affairs, is to affect very greatly the utilization of interchanged rolling stock, and its practical application renders it still more hurtful. At such times as the

present, when there is plenty of cars, all the companies strive to employ their own cars for transportation over connecting lines, whether others be present or not, in order to earn a small amount in the way of car rent. The station officials, in consequence of the forfeit incurred by delay, are anxious to return every strange car home, whether full or empty, as soon as possible. Not infrequently the managements, for the greatest possible advancement of their own interests, will tranship freight carried over their roads from foreign cars to their own at the first opportunity, returning the foreign car and thus saving rent.

Although the ownership of cars by so many different corporations has very bad effects on the transportation system, they may not be very apparent to the public at a period when cars are plentiful. But so soon as from any cause a scarcity of available cars sets in, the disadvantage at once becomes prominent; for the restricted utility and working capacity of the cars, and the many useless empty journeys, considerably increase the evils of a dearth of cars, and they are further aggravated by the strict rules, accompanied by numerous penalties, which the companies generally apply rigorously at such times. With the institution of one consolidated stock of cars for the largest possible traffic district, the distribution and circulation of the cars could always be arranged according to current requirements, so that each car, on arrival at its destination, would be promptly dispatched in any direction with whatever freight might be on hand; journeys empty would thereby be avoided, and with an undivided direction of the railroad district the supply of means of transport could be adjusted to the demand. That such an end cannot be attained with the present divided management and the various and competing interests of the numerous independent corporations, and that it can only be achieved by uniting the ownership, operation and administration of the railroads under one authority, is evident.

With the united management of the car stock a saving in working material would also be effected. The better utilization of the cars would render a reduction of their number possible, and, by avoiding so many empty trips, we reduce the locomotive power required to do the same amount of transportation. The original cost of the 6,818 locomotives and 143,060 freight cars in use on the Prussian railroads in 1877 was, respectively, 349,134,739 marks and 439,660,134 marks; total, 788,794,873 marks [four marks

are about equal to one dollar]. An important reduction in the number of cars and locomotives required would, if not at once, in course of the period in which the stock has to be renewed, set free a considerable amount of the total capital, that might be employed for other industrial purposes, and relieve the operative management of the railroad of some of the interest payable.

We have thus demonstrated, that as well in the construction and equipment as in the different branches of management, the existence of many independent railroad organizations in one and the same commercial district must result in a considerable increase in the cost of transportation, which can only be obviated by union and amalgamation into one dominant system.

TWO ROADS TO DO THE WORK OF ONE.

The most obnoxious form in which commercial extravagance caused by divided ownership of railroads appears is in the competition of several roads; that is to say, where the traffic that could be accommodated by one line is divided between two or more.

Among the mines and iron works of the Ruhr coal district, we find that no less than fifty-six establishments have complete and independent side-track connections with two roads, and there are twelve that connect with three different roads, although either of them, if properly managed, would suffice for the whole traffic of the works. The capital city, Berlin, has at least duplicate railroad communication with almost every commercial centre in Germany : with the five hundred miles distant industrial district of Rhenish Westphalia it is united by three fully equipped and independent railroad lines. On two of these lines there are daily three fast through trains, starting at the same minute each day, and arranged and furnished as through passenger trains. The passenger and also the freight traffic between these points might, in ordinary times, be accommodated easily by any one of the roads. In fact, there is scarcely a place of any commercial importance in Germany but is served by two or more competing corporations, although the traffic does not nearly require them. This duplication of the means of communication, without any other reason than competition, and devoid of any good effect on the transport service, is the cause of such an enormous expenditure that the interests of the roads themselves demand a different ar-

rangement. After the opening for business of the many different enterprises that owe their origin to the financial activity following the two successful wars of 1866 and 1870, while at first and during the steady increase of traffic the traffic management was dictated by reckless and unsystematic competition, latterly for the purpose of regulating competition the so-called "apportionment system" has been largely introduced, which consists in a mutual agreement among the different roads, by which the traffic is divided among them for certain fixed periods. Without considering the endless and disagreeable quarrels among the different roads that are inseparable from the system, this method is not calculated to reduce the increase of expenses that is caused by competition.

ALTERNATIVE OPERATION.

The division of traffic between the different roads is generally effected monthly, proof in itself that either road is capable of undertaking alone all the business that may exist at that point. This method of apportionment entails on each road the necessity of being fully prepared, on the frequent recurrence of a certain period, to conduct the whole of the transportation. The necessary motive power, the brakemen, trackmen and station hands on full time, and often at increased rates for night service, must be kept constantly ready, although they may perhaps be employed half, perhaps even one-third of the time. A reduction of the force of the road to the strength requisite for the local traffic cannot be thought of, in consequence of the rapid changes that must occur between activity and idleness, and the impracticability of dismissing the superfluous force for the short periods of inactivity. It happens in this wise that the working force of one railroad only out of several connecting lines is fully employed, while the other roads, though fully equipped for service, have no employment for their capacity.

CIRCUITOUS TRANSPORTATION.

The apportionment system brings with it a further increase in the cost of transportation, for the reason that the roads entitled by the agreement to share in the traffic are not always those best adapted by circumstances for that duty; that is, they are not always the shortest routes or those over which the traffic may be carried most economically. It is well known that freight is carried over roads exceeding in length by 100 per cent. the shortest route. In making the rates, the shortest route is always made the basis, which is founded

in the nature of competition, so that the longer roads which have entered into the contest are compelled to carry at extraordinarily low rates per mile, often hardly covering the bare expenses, without benefiting shippers, to whom the short route is also constantly available. The abolition of this indirect transportation service can only be achieved by permanent amalgamation of the railroads, as it is impossible to prevent, otherwise, competition with the shortest route by other corporations in their own interest.

INCREASE OF WORKING EXPENSES AND OF RATES CHARGED.

It is inevitable that the increase in the cost of transportation resulting from the circumstances here detailed must eventually impair the capacity of the Prussian railroads and result in prices for transportation which will be permanently so high as to be eminently unfavorable to traffic. The lower the cost the cheaper the transportation rates; a reduction of rates below the actual cost of carrying cannot be expected permanently from the most reckless competition, because interest in the business ceases as soon as this limit is reached. The waste of power occasioned by return journeys and competition would finally have to be paid for by the shippers in the shape of higher freight rates, while complete unity in the ownership, management and operation of the railroads of the country will result in a gradual reduction of the actual cost, and leave room to hope for cheaper freights.

III.

GOVERNMENT PROTECTION OF PUBLIC INTERESTS AFFECTED BY RAILROADS.

The public interests which are involved in the location, construction and operation of railroads require the influence of the government for their protection and advancement. But imperfectly recognized at the commencement of railroad development, they were insufficiently provided for almost everywhere. Government confined itself to indirect care, leaving the construction, working and management of the lines to private enterprise, and only limiting the powers of the owners by laws and charters, as the public welfare appeared to demand. In the course of forty years' development, however, the great importance of railroads to commerce and the whole of modern civilization has been manifested, so that the legal regulation of government supervision of railroads has become one of the most important of legislative problems. That an effective regulation and or-

ganization of the state supervision of railroads is impossible as a permanency, and that the indirect care of government for the public interests affected is not to be accepted as a solution of the problem of government protection and furtherance of such interests, has not yet become a universal conviction. The regulation of railroads in the various countries still presents a motley picture of the most heterogeneous systems. That among all these systems, the direct and unrestricted control of the government, and the union of proprietary, administrative and operative powers over all leading roads in government hands, form the only effective and practical method of solving the problem, will be manifest on the closer consideration of the important public interests affected by the railroads, and the serious claim the advancement and protection of those interests has upon the government.

The laws protecting and advancing public interests, as far as they are affected by inland railroads, are for the most part contained in the law concerning railroad enterprises, of Nov. 3, 1838, and in the constitution of the Empire. In the railroad law (§ 8, No. 5), the railroads are designated public highways. The exclusive right of carrying on the transportation business over them is given to the constructors only for a limited period, at the expiration of which time others are to be admitted to the business on payment of a stipulated sum (§ 26). On granting the charter the capital stock and the constitution of the company are fixed (§ 1 and § 6). The construction of the road must be according to plans that have been examined and approved by the government inspecting officers (§ 4). The right of eminent domain, for the compulsory acquisition of land, is granted by the state to those who undertake the construction of a railroad (§ 8). With the granting of the charter, the grantees are not merely permitted, but are required, to build and operate the road (§§ 21, 26, 33, 36 and 47). They are bound to keep the road and equipment in a safe and serviceable condition (§ 24). They must carry only on the terms set forth in the published tariff, and without discrimination among their customers (§§ 26 and 32). The tariff itself is subject to government control (§ 32), and must, under certain circumstances, when required by the government, be suitably reduced (§ 33). The corporation is also bound to undertake certain services for the post-office, and to regulate the working of the road according to certain requirements of the post-office (§ 36). The

enterprise is finally under government supervision, and any breaches in the contract undertaken may be punished by a revocation of the charter.

In the imperial constitution we first find the idea expressed that the whole of the German railroads should be considered and managed as one connected network (Art. 42.) In consequence, the necessity is fundamentally recognized of common standards for the construction and equipment of railroads, and for uniform regulations of track service and operation, of harmonious time schedules for the passenger traffic, through shipments in both passenger and freight traffic, the transfer of cars from one line to another, and the greatest possible agreement of the schedule rates (Art. 42 to 45). The imperial constitution further declares the interests of the national defense and of commerce in general to be those which should shape railroad legislation and supervision.

In the interests of national defense, the railroads are bound to provide the military authority transportation at uniform reduced rates, and it is made their duty to yield implicit obedience to the authorities of the Empire with regard to the use of the railroads (Art. 47). The necessities of traffic are declared to be sufficient cause for requiring united management of the lines, their provision with equipment, the establishment of the time-tables and the arrangement of the freight trains (Art. 43 to 44).

In the whole of these national and imperial regulations, the controlling considerations for the protection of public interests affected by railroads are prominent.

GENERAL VIEW.

Railroads are public highways, the right of transportation over them belonging to the proprietor. The exclusive character of this right is necessitated by its very nature. The endeavor to divide its exercise among several contracting parties, as contemplated in Sec. 27 to 31 of the railroad laws, and to a more considerable extent in the legislation of foreign countries, has proved on the whole practically impossible of execution. The indispensable precautions necessary to insure safety and regularity of working allow of the common use of a road by several operating managements for short distances only, and, where it does not relate to the passage of through trains over short connecting routes, only in consideration of a mutual understanding. While thus the proprietors of the roads have a monopoly of the conduct of

transportation over them, not only private traffic but also the state, on account of the mail and military transportation service, must have recourse to these same proprietors.

The importance of railroad transportation for all business interests forbids the abandonment of such important rights to private enterprise, except on conditions which will effectually prevent the exercise of the monopoly to the disadvantage of the public welfare, and will subject the construction, operation and administration of the enterprise, so far as the aforesaid conditions are concerned, to the supervision of the government. From this general point of view results the problem which devolves upon the state respecting the permission to construct, the operation and the transportation service of the railroads.

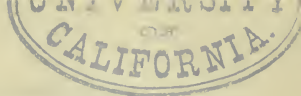
(a) ON THE PART PERFORMED BY GOVERNMENT IN AUTHORIZING RAILROAD ENTERPRISES.

For the establishment of railroads such demands are made on the national wealth that it becomes an indispensable duty of the state to insure its well regulated and useful application. According to information gathered, the capital invested in the different railroads in all the countries in the world amounts to a colossal sum. As well from the comparatively narrow stand-point of national economy, as from the cosmopolitan view of universal economy, the disadvantages of an ill-planned, unsystematic building of railroads are incalculable, as the capital resources of every country are limited, and capital uselessly employed is forever withdrawn from its proper object—the furtherance of economical development. The idea that every railroad, even when not established in a manner to assist economical development in the most suitable form or direction, is useful to the country, is a serious and fatal error that has rendered hundreds of millions of hard earned capital unproductive, that has caused widespread commercial distress, and withdrawn from really meritorious works the means of their accomplishment. The expenditure of such enormous sums as are requisite in railroad construction cannot, therefore, be left to the whims of individuals, although wide latitude may be allowed to the spirit of enterprise and the profitable investment of private capital. It is rather the duty of the government in authorizing railroad undertakings to follow an intelligent, careful and well considered policy, so that the capital of the country shall be expended only where it will prove fruitful, and thus

what is useful and necessary be secured at the least sacrifice and without economical waste.

THE PROBLEM OF THE STATE WITH REGARD TO THE ACCOMPLISHMENT OF RAILROAD ENTERPRISES.

The successful accomplishment of a railroad undertaking is impossible, unless the projector be empowered, in order to gain possession of the necessary land, to acquire and affect private proprietary rights, and where public interests prove antagonistic, to demand even their limitation to such an extent as may be demanded by the projected structure. The industrial relations of the districts which the railroad divides suffer a disturbing and often in the highest degree injurious change. Enclosed landed property is cut in two, cultivation interrupted and delayed, communications between the two sides of the line by means of public or private roads are broken, transferred, or their utility impaired by the railroad crossings, the water courses are interrupted or removed, the progress of shipping on navigable rivers, as well as the banks of such rivers, are impaired by bridge arches and embankments—in short, every imaginable public interest in the land comes into collision with the construction of the railroad, and as far as may be necessary is compelled to give place to the higher interest involved in the completion of the undertaking. All this but increases the obligation of the state to authorize only those enterprises whose evident utility to the community will justify such an encroachment on the private rights of individuals and industrial interests of small communities. But in order to confine the evils and derangements accompanying railroad construction to as narrow a limit as possible, it is the business of the government to secure the completion of the structure within a proper time and in a proper manner. To achieve these results, the period to be occupied in building must be fixed by the government, and the whole of the plans and the total estimate of the cost subjected to examination and confirmation at the hands of state authorities, and the latter must be empowered to compel the completion and equipment of the road within the time and according to the approved plans. As the fulfilment of the building agreement by the constructor depends mainly on the provision of the necessary material for construction, government must determine the amount of capital required to insure its complete provision and systematic supply.



DUTY OF THE GOVERNMENT WITH REGARD TO THE TECHNICAL OPERATION.

The technical working of a railroad calls for the attention and co-operation of the government no less than its construction. The dangerous nature of railroad operation has certainly been reduced to a considerable extent by the technical improvements effected during a forty years' period of development, as compared with the primitive working arrangements in vogue in earlier years, but on the other hand, a steady increase in the dangers of operation has necessarily been caused by the extension of the railroad system and the increase of traffic.

The greater amount of traffic to be accommodated, the more numerous the trains to be despatched, the shorter the intervals between succeeding trains, the more numerous the employés required to make up and despatch the trains, and the more complicated the working and station arrangements, the greater the increase in the dangers of operation. It must be admitted that the means of fulfilling the requirements of operation have been improved and perfected, but the problem of operation itself has grown more and more difficult and complicated with the increase of traffic, and a constant increase in the number of accidents may be expected. Just as the number of accidents in England and Belgium, in consequence of the extensive development of the railroad systems in those countries, is higher than in other lands, so for the same reasons the number of casualties now is greater than in earlier years. To guard against this constant and unavoidable increase in the dangers of operation, it is the duty of the government to see that all the conditions on which the safety of railroad operation depends are conscientiously fulfilled by the companies. For these reasons the projected structures of the road are subject to government examination and sanction; on this account we have government supervision of the construction of rolling stock, government control of railroad track regulations, the determination by government of the qualifications of the track-men and engine-men, the examination and approval of the time-tables, the control of the hours of service and distribution of service of the employés entrusted with guarding the road, the reports, inspections and inquiries into irregularities of trains, respecting the maintenance of the road and equipment, the establishment, provision

for and condition of the reserve and renewal funds, as well as the current condition of the stock of locomotives and the work demanded of and accomplished by the various managements. Even all these rules and directions, which are intended to secure the regularity and safety of operation, fulfil their object but imperfectly when the management does not conscientiously support the government and carefully meet the requirements that are arising from constantly changing circumstances.

GOVERNMENT CARE FOR THE INTERESTS OF NATIONAL DEFENSE.

In their capacity as public carriers, the railroads are primarily designed to serve the interests of commerce and the national defense. The railroad system has shown one of its most important uses to be its furtherance of the national defense. The rapid concentration of the necessary masses of troops at any point that may be threatened by an enemy to a great extent decides the success of strategical operations. The interests of national security therefore demand that the connections of the railroad network provide for the means, first of facilitating in the different military districts the mobilization of the different contingents and their preparation for march to the seat of war with the least possible delay, and on the other hand ensure the rapid transport, to such a point as may be threatened by the enemy's army, of as many troops as may be necessary to oppose them, as the particular emergency may require. The rapidity with which the disposable troops may be concentrated frequently makes up for their deficiency in numerical strength. Of no less importance are the capacity and systematic interconnection of the railroad system for lines of supply and to keep up the rear communications of the army in the field, for the reinforcement of troops and war material, for the sustenance of the army and for transportation inland from the seat of war. In a country with boundaries such as inclose the German Empire, the interests of the national defense are of preponderating importance in determining the constitution and development of the railroad system. It becomes, therefore, the duty of the government, in controlling the construction and configuration of the railroad system, to provide direct military roads with a capacity adapted to any emergency of war, to arrange as systematically as possible their ramifications into all the dif-

ferent military districts of the various army divisions, to prepare and develop the roads for the accommodation of the utmost amount of military traffic that could in any event fall to their share, to supervise the construction of stations suitable for the shipment of troops and war materials, to see that they are kept in good condition and to provide for the possibility, if necessary, of a speedy and effectual destruction of some such structures of the more important lines as are essential to their working. Even the distribution of technical operatives of the road must be considered in their relations to the use of line in time of war, or for extensive military operations; if the force is already organized, the road may be utilized at once. The responsibility of the state for the interests of national defense thus entails a far-reaching co-operation of the government authorities that must trench considerably on the independent disposition of the managements, and which must extend its supervising, regulating and restricting influence to an equal extent over the location, construction, equipment and working arrangements of the railroads.

CARE OF THE STATE FOR COMMERCIAL INTERESTS.

Just as the railroad lines, in their capacity as public highways, form the military roads by which armies are moved, so are they the routes pursued by the currents of the world's commerce.

A large proportion of the products of the country are dependent on the railroads for means of transportation. The through railroad lines, extending beyond the borders of provinces and countries, and, in fact, almost over the whole continent, and the passage of cars, from the starting point to their destination, in the European system of railroads constructed of uniform gauge,* has extended the carrying capacity of the railroads to the furthest limits of our continent. The possibility of exchanging goods throughout this enormous territory, regulated by the international commercial agreements supported by the connecting water-ways and the minor systems of transportation in operation in the districts bordering on the railroads, has given scope to the productive powers of the nations, opened up their natural resources and the wealth of their produce which before were unknown or unemployed, and unavailable for the growing requirements of a progressive development, and has rendered them

* Spain and Russia have not the standard gauge.—TRANSLATOR.

available material for home and foreign productive power and enterprise. From the inland traffic of narrow territories, from the straitened commercial relations existing between different countries, hampered by endless difficulties and obstructions, has grown gradually the great international commerce. Inasmuch as producers are able to draw their supplies from, as well as forward their products to, the most distant quarters, the inventive and enterprising spirit of commercial life has, during the short age of the railroad, already shown results which far exceed those of centuries of activity in olden times. Countless new industries have been called into existence, the economical activity of whole nations has undergone a complete transformation, new powers have arisen, new values have been created, and many ancient and long-cherished industries have, under the changed conditions and more abundant resources of foreign competition, lost their old vitality. Unforseen, irresistible and sudden, these changes have often been effected in such a manner as to jeopardise the economical importance, not only of the individual but of whole populations. The extent of these constantly progressive changes in economical conditions, which necessarily accompany the development of a railroad system, is still unrevealed, so that the removal of the danger arising from the transformations, which is always most threatening in the case of a people poorly supplied with natural resources, can hardly be expected at the present time. As it devolves upon the government to further the prosperous development and building up of the home trade, so it should be one of its first and most important tasks to make and keep the railroads tributary to their great destiny as high roads of commerce, for the benefit of the whole community.

It becomes, therefore, a duty on the part of the government to provide for a growing commercial intercourse by corresponding additions to the different railroads, and by ensuring their proper equipment with rolling stock. The demands arising herefrom, such, for instance, as the laying of double tracks, the reconstruction of stations, the establishment of new stations and stopping places, the construction and maintenance of connections with other roads, under certain conditions the erection of union depots for common use, as well as the supply of cars and locomotives as far as may be necessary for the sufficient accommodation of the traffic, must be enforced by the state even in the case of private

corporations, if the railroads, in spite of their private ownership and administration, are to be regarded as public commercial highways. For the same reason the duty falls to the government of regulating time schedules, even in the case of private management, and the power to alter the time of existing trains, and to introduce new ones, as soon and to such an extent as the exigencies of traffic may require. The responsibility of the government for the running of trains also entails on it the duty of seeing that all arrangements necessary to effect this purpose are provided, and if not to compel their provision. That the government cannot successfully undertake all the duties we have referred to without interfering in all the branches of the management, and under certain conditions severely damaging the interests of the owners, will appear plain. On account of the considerable expense that will certainly attend the carrying out of requirements of the kind described, the maintenance of commercial interests depends to a great extent on the ability of the management, while public considerations must evidently give way to the conflicting financial interests of the corporations.

WITH REGARD TO FIXING RATES.

The most difficult and at the same time the most important task devolving on the government is with regard to the fixing of the rates of the railroads. In order that the railroads' practical monopoly of transportation may not degenerate into a system of extortion on the traffic which depends upon them, the fixing of the rates must not be left to the arbitrary will of the parties working the roads.

It is rather the business of the government to see that the use of the railroads shall be secured to all who have to do with transportation for a fixed and proper consideration. The net cost of every article produced that is not consumed in the immediate neighborhood of production consists in part of the cost of transportation. The greater the distance at which producers obtain their supplies and market their products, the larger will be the proportion of transportation charges included in the cost of production and in the selling price of the article. With the facilitation of the exchange of goods over great distances, as effected by the extension of the railroads, the whole productive economy, as we have explained above, has undergone a complete change of form, since the sources of supplies and the markets for almost every branch

of productive industry have been extended far beyond the previous narrow limits. The cost of railroad freightage forms, therefore, a considerable proportion of the cost of production of most articles at present, so that the development of all the chief branches of production that are not from some cause independent of transportation by rail, are to a great extent dependent on the fixing of tariff rates.

(a.) *Moderation of the Railroad Tariffs.*—We will endeavor to show that the government has first of all the highest interest in a proper limitation of railroad tariffs. In the law regulating railroad enterprise of Nov. 3, 1838, the rates chargeable by any railroad are limited to the realization of a clear profit of 10 per cent. on the capital invested; and as soon as this profit is exceeded a reduction in the rates charged is directed (§ 33). The imperial constitution, without fixing any particular point as the limit, establishes the greatest possible reduction of the rates of transport as the problem to be solved by the railroad policy of the Empire, and only fixes the one pfennig rate* for application to the transport of those raw materials whose movement over great distances is considered one of the prime requisites for the stimulation of trade and industry, as the object first to be accomplished. (Art. 45, No. 2.)

The schedules of rates of the railroads fluctuate widely between the cost of transportation to the management, which is calculated only with difficulty and imperfectly, and the value of the transportation to the shippers.

The cost of transportation to the carrier has been enormously reduced since the initiation of railroad enterprises. The great progress in the science of operation, in the nature and construction of the rolling-stock, in the systematic and economical regulation of the operation, in the reduction and simplification of the methods of administration and operation, and especially by the great increase in the traffic, have contributed to this result. The advantage accruing to the railroads in making the carrying powers of their lines as valuable as possible to shippers has also assisted in bringing about this reduction in the tariff. These various causes will suffice to explain the extraordinary reductions in the rates of transport which have been made on all important articles of freight since the introduction of the railroad.†

* That is, one pfennig (0.243 cent) per centner (110 lbs.) per German mile (4.68 English miles). This is equivalent to 0.935 cent per ton (of 2,000 lbs.) per English mile.—TRANSLATOR.

In its care for the encouragement of domestic trade, government has the liveliest interest in the reduction of general freight charges, but more particularly in the rates imposed on the least valuable rough freights which are absolutely necessary in the development of industries. This becomes all the more evident when we consider that the enormous progress of traffic which the railroad age has brought has kept pace with the gradual reductions in freight charges, as well as with the extension of the network of railroads. To ensure a proper formation and development of the railroad system, it is, therefore, absolutely necessary that the government be assured of a continuance of the reduction in tariff rates, sufficient to meet the economical requirements of the country. The principle of railroad policy, expressed in the before-mentioned Art. 44, No. 2, of the imperial constitution, is, therefore, founded on the proper appreciation of an unavoidable necessity. The designation of the one pfennig tariff as the normal rate which it was desirable to attain for that class of bulky merchandise which is indispensable to economical interests is the concrete expression of the opinion, that the movement of these substances over a widespread territory is the fundamental requirement for the advancement of industry and the development of the natural resources of the country. In consequence of the extraordinary difficulty attending the acquisition by government of the means necessary to reduce the rates of transport, the principle included in Art. 33 of the constitution has never been consummated. Aside from the reductions of rates, necessitated by the adoption of through shipments, and the famine rates, a compulsory reduction of the freight charges by the state is attended with difficulties which can scarcely be surmounted. It entails a weighty and direct attack, not only on the management, but also on the financial interests of the corporations concerned. On the other hand, to render this action of the government subordinate to the financial interests of the different corporations, would not only contradict its object, but also would be inflicting an injury on those districts which are dependent for their means of transport on a financially embarrassed railroad. If the reduction of the tariff is left to the free action of the railroad companies, it be-

† Appendix 7 contains the tariff rates for a number of articles of commerce as they have appeared at intervals of five years since 1848, in order to give a distinct idea of the reduction of prices that have taken place.

comes a question not of the interests of trade, but of the financial interests of the railroads, and the freight rates charged will be subject to the complaints on the part of the commercial world that have been prevalent for many years, respecting the instability, inequality and complication of the rates.

(b) *Stability and Uniformity of the Tariffs.*—Just as much as the moderation of the railroad tariff is an important consideration to the successful development of the commercial system, so are their stability and equality, so far as they are not excluded by the former. The equalization of distance effected by all means of communication, by which the producing and consuming districts are brought more closely together, is in the case of railroad transport possessed of increased importance, because the amount of traffic on the railroads, which is of the first importance in determining their rates, depends not only upon the quantity carried, but on the length of the haul. Not in the number of tons carried, but rather in the number of tons carried one mile (tonnage-mileage), is the amount of the freight traffic of a railroad properly expressed. Therefore, the reduction of rates for long distances is for the interest of the railroads, just as is a similar reduction for the coarse freights, whose carriage enables them to utilize to the utmost their cars and motive power. Were their manipulation of the tariffs unrestricted, it would lead to a still more varied system of rates, according as the above considerations should have greater or less application. In addition to what we have already mentioned, it must be remembered that the currents of traffic generally are limited to certain directions—the direct lines between consuming and producing districts. The number of lines competing for the carriage of this traffic, however, has been enormously increased, as the railroad system has been extended, by the combination of connecting roads for use as through lines. The further apart the termini of the route are situated, the greater the number of competing lines between them; and this number is further increased by the water-routes, especially for the traffic to and from sea-ports. With the large, and in consequence of the constant extension of the railroad system, continually increasing number of competing routes in those directions in which the currents of the world's commerce move, a constant variation in the tariff is inseparable from the continually changing interests of the different managements forming the sepa-

rate lines. So long and to such an extent as is demanded by the interests of competition, and as long as the customary understanding between them does not occur, the rates will be reduced; but whenever these conditions are fulfilled, they will remain at their original height. This unequal and variable form of the tariff, in consequence of the importance of the railroad freight charge to the cost of the production of goods, is a constant and serious danger threatening every branch of industry. Under the influence of a tariff which owes its existence to a fortuitous concurrence of events, we find that in one neighborhood new industries and new works are called into existence, while at another point, a formerly flourishing industry is practically killed. These variations occur most frequently on the long routes of transportation extending over the borders, and here not only do the conditions at home, but also those of the foreign country, affect the competition of the carriers. The construction of new lines and short routes at home and abroad, the consolidations and operating agreements of the managements, the changes in the schedule rates of foreign railroads, the justifiable and, unfortunately, oftener unjustifiable, competitive measures of the foreign forwarding lines, the constant changes in the conditions of water competition, the rise and fall of ocean freights, the establishment of new steamer lines, as well as the withdrawal or changes of those existing, changes in the customs laws, political entanglements with their restrictions of traffic and their effect on the money market, epidemics and all imaginable events that interrupt commerce—in short, countless unexpected and unforeseen circumstances exercise a constant effect on the railroads and conditions of transportation. They change and disarrange the competing interests of the different companies, transfer business from one route to another and cause a change of relations which finds expression in a constant variation and change of the freight rates on the different routes. Although it must be admitted that these conditions, as far as they originate in the state of affairs abroad, are to a great extent beyond the reach of the home government, it still remains desirable, in order to secure a constant and regular commercial progress, to neutralize their evil effects as far as possible by the establishment of a well-regulated tariff on the home railroads, and at least to guard against the dangers and disadvantages to commercial development caused by an arbitrary system of rates de-

terminated chiefly by competition, abandoning the system by which the variation and instability of the prices for transportation are increased. It is therefore incumbent on the state to subject the making of exceptional rates to its supervision and control, and to permit those only which appear desirable in the interest of the development of traffic and the industrial resources of the country, and rigidly to exclude all that flagrantly transgress against the regularity of the tariff, or that are disadvantageous to those commercial interests it has undertaken to protect.

The experience of recent times shows that a settled schedule of freight charges, and not one subject to arbitrary and frequent fluctuations, is most advantageous for the substantial and regular development of commerce. Only by this means can a safe and trustworthy foundation be given for business combinations, and the conduct of those industrial undertakings that are dependent upon the railroads. The assumption that reductions in freight charges are to be accepted as everywhere desirable and permissible, if they suit the interests of the shipper and the railroad alike, is not to be accepted as universally true. Most of the reductions in rates that have been allowed on the intercession of certain commercial interests, are, as a rule, accompanied not only by advantage to those business relations that are suited to these arrangements, but also by disadvantage to those who conduct a competing business dependent upon the same district for a market but which cannot take advantage of the special reduction of rates made for the benefit of their competitors. Under these circumstances, the effects of reduced tariff arrangements can be foreseen neither by the railroad managements nor by the government supervising officials, as the commercial relations of the different shippers, the conditions of production and the limits of the markets supplied by the different producers cannot be exactly known by them. It has repeatedly happened that exceptional rates of this description, which had been granted at the urgent request of the shippers and also in the interests of the railroads, immediately afterward have become the subject of earnest and justifiable complaints on the part of competing producers, who found their market not only opened, in consequence of the reduced rates, to outside competition, but sometimes completely closed to their own trade.

It is therefore evident that by such variations in the rates of transportation, the conditions of existence may be with-

drawn from an established industry, just as they may be given to a new industry. From all these reflections the thought arises, whether it will suffice for any length of time to make the supervisory officials responsible for the allowance of such exceptional rates, whether these supervising officials themselves have the information at their command that will enable them rightly to estimate the ultimate effects of such rates, their advantages and disadvantages to industrial life, and to weigh and consider them, or whether it appears more advantageous, in place of such an adjustment of rates, made according to the requirements of commerce in the many different parts of the country and branches of industry, and comprising numerous exceptional rates to suit a changing and motley variety of conditions, to provide a permanent and uniform foundation for the rates of railroads and have it fixed by law. The establishment of such a standard, to the exclusion of all arbitrary fluctuations and unexpected disturbances, whether it be established by fixing the rates by law or otherwise, would be of the greatest importance to the development of commerce, as without it the constant and widely differing changes that business relations undergo cause continual changes in the form and arrangements of the tariff, and thereby unavoidably lead to the uncertainty and complication, by which the certain calculation of freights is rendered difficult or impossible and one of the most important considerations of business intercourse is left questionable.

Whether the action of the state be confined to the passive exclusion of all such arbitrary tariffs as jeopardise commercial prosperity, or whether it appears indispensable to fix by law a positive uniform standard for making the rates, in either case the protection of the public interests, which is vested in the government, demands a restriction of the functions of an independent administration, of such deep and far-reaching importance as to seem hardly compatible with the independence of the private operation of railroads.

(c) *With Regard to Customs Policy.*—The determination of the tariff acquires an increased significance for public interests by the close connection which its effect on foreign commerce has with the customs policy of the country. The industrial crisis, which, in consequence of unlimited overproduction in all branches of manufacturing industry, has compelled this and foreign countries to restrict the production of manufactures and bring it down to the level of the

actual demand, is naturally fraught with the greatest danger to the weaker manufacturers. In the underbidding of prices, often below the cost of production, the struggle for existence is carried on, by which in the competition of nations, as of individuals, the weaker go to the ground. Although it is perfectly true that over-production can only be cured by its restriction, still it appears to be the most urgent and indispensable duty of the government to see that the restriction does not affect domestic production solely or unduly. If, then, the state must assist the latter in this struggle and lend its protection, so much the more and the more certainly is it its duty in the further development and building up of commerce to prevent whatever might restrict or hinder the competition of home against foreign industries. Such a hindrance, and one of most deadly effect, consists in railroad rates arranged to favor foreign products as against home manufactures. The favor shown foreign products, in the so-called foreign differential rates, has no close connection with the provision of goods from abroad, but is rather chiefly the natural consequence of the function of the railroads in equalizing distances, of the circumstance that the foreign transport route is generally longer than the road to and from the domestic competing districts, that with the length of the route the number of competing connections increases, and that in this trade the circumstances are subject to the most rapid and frequent changes. If, then, the railroads are inclined, in their own interests, to reduce the rates for the export and import of foreign products, it is the duty of the government to take measures restricting this tendency, and in proportion as the home industrial interests are liable to suffer, to hinder it, so that the domestic market may not be exposed to a ruinous flood of goods which are the result of over-production abroad. Repressive measures against such an arrangement of rates become, therefore, chiefly the consequences of a healthy and justifiable national self-regard. Still more are these regulations necessary, when the depressed state of home manufactures demands the direct protection of the government, by the imposition of a protective duty on foreign products. If the right of government to protect home manufactures against foreign competition by the imposition of a protective duty is recognized as justifiable, how much more is it justifiable for government to ensure the effectiveness of this protection by preventing any neutralization of these restrictions

by the adoption of lower freight rates on imports. The assurance of this protection has become not merely a question of arbitrary consideration as to whether the tariff in individual cases is injurious to domestic production ; it becomes a positive duty to prevent the avoidance or reduction of a protective duty on foreign manufactures by a reduction in charges on dutiable foreign freight. It especially devolves upon the government, in such a case, to protect the customs policy against a railroad tariff that is mainly determined by the pecuniary interests of the road. Such a restriction, trenching as it does so considerably on the interests and the free action of the railroad corporations, will not be so surprising when we consider that railroads, as public highways, can only be left to unrestricted private control so far as public interests permit; and that a policy of protective customs duties, which has been demanded and sanctioned by law as essential to the most important public interests, justifies all such interference with the operation and management of a railroad as may be necessary in order to carry it out successfully. Whether on the one hand such limitations are consistent with the existence of an independent private system of railroad operation, or whether on the other hand the government will be in a position to prevent effectually any selfish encouragement of transportation business on the part of the railroads in contravention of the protective tariff policy, are questions that must be left to futurity for a decision.

(d) *Uniform Treatment of Shippers.*—If the right to the exclusive conduct of transportation over his road granted to the constructor of a railroad should be united with the condition that it shall open for the use of the whole community, as the nature of a public highway requires, then its use must be secured to everybody on equal terms. In the price of transportation, as well as in the other terms of transportation, no difference between individual shippers, no preference of one before another, can be permitted; either would be inconsistent with the fundamental principles of a well ordered state, which guarantee equal rights to all. This principle of equality does not, it is true, absolutely exclude those favorable conditions of transportation or reductions in rates that may be made for fixed considerations, such as the quantity shipped, the length of the haul, or other requirements, as long as they are guaranteed alike to everybody who complies with the before-mentioned requirements and conditions.

Such a regulation of these requirements and conditions as would allow of their definite statement, in order to secure to one shipper the privileges granted to another, would be practically impossible, but although they may not be formally expressed, they must be founded on facts. The just and equitable treatment of all shippers demands at the same time the publication of all rates and conditions of transportation, so that they may be known and available to all. The principle of the publicity of the rates and the equal treatment of all shippers, (§§ 26 and 32 of the law of Nov. 3, 1838), which are embodied in the railroad legislation of all countries, are liable, as experience has shown, to be circumvented on account of the competing interests of railroads, and also by individual interests which have influence with the managements. The granting of these secret advantages in transportation in the most diversified ways to individual shippers, and in particular the so-called rebate system, is the most injurious misuse of the powers granted to railroad corporations. It renders government control of the rates impossible, makes the competition between the different lines, as well as that of the shippers dependent on them, dishonorable and unfair, carries corruption among the railroad employés and leads more and more to the subordination of the railroad management to the special interests of certain powerful cliques. It is the duty of the government to oppose this evil, to uphold the principle of the equal treatment of all shippers, and to enforce the legislative regulations on this subject. The importance of this problem is only equaled by the difficulty of its solution.

IV.

DIFFERENT FORMS OF RAILROAD DEVELOPMENT.

According to the above deductions, no doubt can remain that it is the duty of every rational railroad policy to discover the best means and ways to accomplish :

1.—On one hand, the uniformity of the railroad system, as required by its development, and the gradual concentration of the administrative and working systems.

2. On the other hand, to protect and advance the public interests that are affected by construction, operation and direction during their progressive development and unification.

This being the case, the question will naturally arise, which of the different forms that the railroad system as-

sumes during the period of its development is most favorable for the accomplishment of the problems of railroad policy? These forms, of each of which a representative may be found in the railroad systems of modern civilized countries, are :

1. Private ownership and private operation of the railroad.
2. Government ownership and private operation.
3. Private ownership and government operation.
4. Government ownership and operation.

In the first two forms, the efforts of the government to attain its objects must be indirect, as state supervision over private enterprise obstructs and restricts the latter. The supervision exercised by the state is in the first case chiefly dependent on the laws and charters granted, while it is strengthened in the second place by the owner's reservations. In the two last-named forms (3 and 4), the control of the government is direct, for, in place of private enterprise, we have the action of the government. In the third case, this latter action is hampered by the private proprietorship; in the fourth case it is unlimited.

PRIVATE RAILROADS UNDER THEIR OWN MANAGEMENT.

1. The pure private railroad system, that is, the union of ownership and operation in the hands of a private enterprise, presents the most difficulties and hindrances to the fulfilment of the government's objects in the development of the railroad system.

Uniformity in the construction, administration and operation of railroads, though it may be conceived without complete unity of ownership and operation, can, in consequence of the individual interests of the different companies, be realized only to a very limited extent. A systematic construction of the railroad net-work, without due consideration of the ownership relations, is impossible. The latter, in the case of an arrangement of the different lines so as to work together in such a manner as to further commerce, necessitates a configuration that will materially differ from the configuration of the whole net-work produced where there is complete unity of ownership and management, because it must provide for the maintenance of the independence and the ability to compete on the part of every management. A systematic partition of the railroad districts among the corporations, if carried out with

this object in view, although it might meet all the requirements of commerce, would still retain all the disadvantages and entail all the loss to the community that is consequent on competitive building and competitive operation. Uniform standards for the building of the railroads and the construction of the rolling-stock are of comparatively little value, as they can only be regarded as guiding and regulating the future construction and equipment of railroads. To come into general use, they would require a complete period of renewals, and during that time, the technical progress made would probably cause them to be superseded. Not less difficult is the establishment of harmonious working regulations among the different roads under private management. Only where the disadvantages to some lines are balanced by the advantages accruing to others—that is, where all the lines are under one management—are uniform working regulations possible without injury to the interests of the owners. The introduction among the German railroads of a tariff uniform, in system and principle, at least, has only been accomplished with extraordinary difficulty, and many modifications and restrictions to protect the special interests of the different managements. Again, the effort to establish within a narrower district uniform regulations, insuring direct transport and through trains for certain transport routes, has encountered the greatest imaginable hindrance and difficulty, chiefly on account of the diverging, and often utterly mistaken interests of the different administrations. Several of the through and connecting trains now running for the accommodation of passenger traffic on the more important routes were originally introduced, in spite of the opposition of some of the railroads concerned, by compulsory measures. It occurs occasionally, even at the present time, that the introduction of certain trains over routes formed by the connecting lines of several different roads is opposed by some of the roads over which they run, either for the reason that it does not pay the line complaining, or because the interests of the owners would be better served by the development of traffic over some competing line. In cases of this kind, even where it is possible to break up the opposition by means of compulsory measures, the discussion whether and to what extent private are to be sacrificed to public interests becomes a delicate and troublesome subject.

On the other hand, the union of all domestic railroads in

the hands of one private enterprise would be absolutely inadmissible. Although the disadvantages and dangers of an unsystematic division and wasteful competition would thus be avoided, to place the complete monopoly of all means of transport in the hands of one enormous profit-seeking corporation would be antagonistic to every public interest concerned, as will be apparent to all. Already in those countries where private railroad management is the rule, and where the technically and economically justified process of absorption by the powerful corporations of the smaller and less important railroads prevails, their course hitherto, the dangerous influence which these powerful corporations have acquired over the whole public existence, the reckless pursuit of the profits of their monopoly and their chartered rights within the district they serve, and the impotency of government supervision compared with their far-reaching, well organized power, controlling all interests, together cause the gravest apprehensions for the welfare of the country, and even for its political independence. A remedy is there naturally sought for, and can only be obtained in the form of an acquisition of the railroads for government.

It will be readily realized, after what we have urged, that the simple private ownership of railroads is not the system of development most favorable to the plan of uniformity of railroads, nor is it likely to advance the gradual concentration of the systems of administration and operation. But it appears much more serious in its effects, and quite impossible as a permanency, if we consider the further duty of the government, the protection and advancement of all public interests that are affected by the railroads.

The only means at the disposal of government to fulfill this purpose is the right of supervision, secured by laws passed and in return for chartered privileges. The problem of railroad legislation, in the presence of a powerful and rapidly-growing phenomenon, has naturally received but a very unsatisfactory solution. The importance and peculiar nature of this phenomenon has been only imperfectly recognized and appreciated, so that the laws dating from the first period of development, in spite of the most careful preparation, stand out like ruins in the present times. The railroad law of Nov. 3, 1838, the best recommendation of which is that it has remained in force until the present time, is also found to be far behind modern requirements. A part of the provisions it embodies (§§ 27 to 31, 33, 42) have never been

of any practical utility, the hypothesis and assumption on which they were grounded having been found not to agree with actual conditions; another portion (§§ 2, 3, 8 to 19, 25, 36 to 41, and 44) has been superseded by later legislative action; the remaining part has proved so utterly inadequate for the legal regulation of the railroads, that already the scant regulations contained in section VII. of the imperial constitution, by means of which the duties that fall upon the railroads with relation to general traffic and the interests of national security were first fixed provisionally, have appreciably assisted in filling the gap in the existing railroad legislation. If we compare the task of the government with regard to the furtherance and protection of public interests, as specified in our third section, with the powers granted by the present laws, it will be at once apparent that the latter are totally insufficient for their purpose. Is the government justified, whether in the interests of safety and regularity of operation, or in the interests of commerce, or of national safety, in demanding changes in and additions to the plans of construction, the rebuilding of depots, the construction of new stations and stopping-places, the laying of double tracks, the removal of level crossings or the alteration of the existing rolling-stock? Some of these powers are in reality claimed by the government on the strength of the general purport of § 24 of the railroad law and the rights of supervision guaranteed in § 46; but the exercise of these rights is disputed by the railroad administrations. In consequence of this want of a sufficiently certain and clear legal title on which to base its assumption of the power claimed, government has been obliged to confine itself to the application of compulsory measures only in the most flagrant cases of necessity. It was left to the later development of railroads and the business dependent on them, to demonstrate the pressing necessity of such powers to the supervising authority. That a legislative reform, for the purpose of regulating and determining these powers, must meet with the bitterest opposition on the part of the opposing interests of the railroads, the experience of the past few years has abundantly demonstrated; and even if such a reform measure were attainable, it would, as far as can be realized, only temporarily suffice for these necessities. Just as the fate of earlier legislation was to be distanced by progressive development, so will it be sooner or later with all future laws. The technical progress

made in the building and operation of railroads as well as in the construction of the rolling-stock and working arrangements, the changes in business relations in consequence of the growing extension of the railroad system and of the exchanges of merchandise between districts and nations, the short-lived innovations and rapid transformations by which the progress and development of the railroad system is accompanied, will always offer obstacles to government regulation that are to a certain extent inseparable from an unsettled state of conditions and relations in course of development. In proportion as the existing laws prove themselves insufficient for present requirements in securing to government the authority that public interests require, they must be corrected through the conditions and privileges granted in the case of new undertakings ; and we see the results of this constant struggle for reform in the increased complication and more comprehensive nature of the conditions under which charters are granted. As the legal privileges of the existing railroad companies, as fixed by previous concessions and stipulations, cannot be altered to their disadvantage without compensation (§ 49 of the railroad law), the conditions under which concessions have been made for their later extension are, as a rule, only applicable to the old lines when further conditions have been imposed on the application for further privileges. The result of such a piece-meal and incomplete regulation is the creation of an unequal, complicated and difficult legal position of the different administrations in their relations to the supervisory powers of the government, and an increase in the difficulty accompanying thorough-going regulations on the part of the latter.

Even if it were possible, by means of a legal reform that could break through the legal rights of the different corporations as they at present stand, to secure such state supervision of railroads as would satisfy present requirements, the application of such a law would still fall short of the requirements of public interests. The proper character of the lines as public highways, the achievement of their functions as institutions of public utility—and only on these grounds are they granted the powers of eminent domain—demands the subordination of the private interests of the party working the road to the public interests affected. The exercise, by the state, of its right of supervision must be accompanied, therefore, by a constant conflict between public and private

interests, and is in many cases impossible without serious financial injury to the latter. From the practical exercise of this right of control arise endless hindrances and hardships.

In authorizing railroad enterprises, the government is responsible that only on account of such undertakings as are of evident importance to the interests of commerce and national security shall the national capital be employed, and such an extensive trespass on private rights and the economical condition of the districts affected as is entailed by the exercise of the powers of appropriation of property, be permitted. The preservation of the independence and competitive ability of the existing private railroads frequently demanded the addition of such lines and connections as could be dispensed with in the case of a united management and operation. The question here arises, whether the authorization of such extensions appears justifiable. If in one case we give an affirmative answer, the country must bear the burden of the consequent injurious effects on its economy; if our answer is negative, the development of the private enterprise whose interests demand the addition may be restricted or compromised.

With regard to construction, it rests with the state to fix the amount of capital and control the mode of raising it, so that on the one hand the undertaking may not be burdened with an excessive mortgage and loan capital that would tend to exhaust its credit, and on the other the provision of the means necessary to secure the proper construction and equipment of the road may be ensured. The experiences of the period of the projection of railroads has proved how difficult it is to solve the problem. By means of the ever varying methods of secretly evading the regulations established by law, a number of enterprises without credit have arisen, accompanied by an enormous waste of capital, through the establishment of which the welfare of the country has been considerably injured.

The government supervision of the systematic and prescribed execution of the construction of private railroads does not by any means always afford the necessary protection to public interests. Although it may be possible to prevent the execution of the construction contrary to the approved plans, and to compel the completion of the road and its equipment in accordance with those plans, yet the exercise of such compulsion would not infrequently be accompanied by

financial ruin to the parties who have undertaken the scheme, and at the same time often inflict great damage on important public interests, and so become practically impossible. The experience of the last few years has unfortunately furnished frequent proof of the correctness of this insertion. None of the independent corporations chartered as the "railroad project" years have been able, with the means of construction at their command, to complete their construction according to the approved plans and specifications. Many sought and obtained the assistance of the government, the total exhaustion of their credit, as well as their means, leaving no other method open. Others have contrived at great sacrifice to obtain the means to get their lines into condition fit to be worked provisionally, leaving the complete construction to the chance of future favorable growth of the profits of their enterprise. Had the government insisted on the fulfillment of all the required conditions and opposed the opening of the road under any other circumstances (§ 22 of the Railroad Law), the collapse of those undertakings would have been unavoidable, and the non-opening of the road for traffic at the appointed time would have caused serious injury to the whole business district dependent on that particular road and have given rise to loud complaints and accusations.

To a similar extent the requirements made by supervisory authorities in the matter of maintaining a proper condition of the road and transport arrangements after the line has been opened for traffic, either in consequence of their having been undertaken by incapable managers, or because the road has not shown the expected returns, on account of the opposing interests of the railroad companies meet with active opposition on the part of the latter, which is only overcome with difficulty. Here, too, by the exercise of their authority the action of the supervising officials may seriously affect the financial standing of the enterprise; for instance, they may order the rebuilding of stations, the removal of level crossings, the laying of a second track or the erection of new depots and stopping-places. Orders of this kind are made more troublesome and more serious to the supervising authorities as the question of their necessity, whether regarded from the standpoint of requirements of traffic, or of the regularity and security of operation, or of the protection of the interests of national defense, is often capable of very different opinions, and they are

chiefly dependent upon the arbitrary estimate of the supervising officials. The various and important public interests that are affected in the operation of a railroad, demand, according to our third section, the restriction to a certain extent of the free powers of administering the railroads. The compulsory introduction of profitless trains to effect such communications as may be essential to commerce, the requirement to arrange for through shipments, which may be opposed to the interests of the roads affected, the manifold restrictions imposed on the rates which are found requisite to protect the interests of commerce, to foster home industries, and on behalf of the customs policy of the government, will often be the cause of serious losses to the separate private enterprises.

Even if we were unable to find, in all the phases we have described, sufficient grounds for interference on behalf of public interests, we may still affirm that the constant collisions with the opposing interests of private administrations are the source of constant efforts on their part to evade or violate the restrictions placed on the method of conducting traffic that best suits their wishes and interests, and are an infallible sign of an unhealthy and, for a permanency, an insufferable state of affairs. The untenableness of such a system is still more conclusively shown in the inability of the government regulating authorities, with the powers of compulsion at their command, to prevent, for any length of time, the evasion by the companies of such restrictions and regulations as they consider to be opposed to their interests in the conduct of traffic.

More than all, in the operation of railroads by private corporations, the principle of equality, the uniform treatment of all shippers, seems endangered. It suits the interests of the railroad proprietors to favor large shippers in preference to the smaller ones, and, by means of secret favors of all kinds, to divert the most important shipments from the competing lines. The opportunities of securing secret favors to particular shippers are so manifold that their effectual lasting hindrance by means of the state supervising power is impossible. Rebates on freights may be made through a second or third party, by means of the secret interposition of agents who are appointed for the purpose of regulating and securing the business of a certain competing route, through the mediation of the foreign railroads concerned, as well as by pre-arranged connivance in admitting and al-

lowing fictitious or unfounded claims, etc., and so may be covered and withdrawn from public as well as official control. The many facilitations of traffic in which a consistent business-like treatment of the public finds expression, the provision of space and arrangements for storage, the exemption from storage and warehouse charges, the attention to the peculiar wishes of the shipper in the matter of the position of his cars, and even the injurious practice of giving free passes to the chief shippers and showing them favors in the way of contracts for supplies and labor for the road, render possible an illegal preference of the interests of one before those of another. The large shippers, the best customers of the road, are readily granted all these favors and privileges, while the smaller shippers are held to the strict letter of the regulations. The more the competing interests of the different roads necessitate cultivating the large shippers, the more this system of secret favors is likely to flourish. How is it then when the owners of great manufacturing establishments situated on the line of the road, of great commercial houses which ship their freight by it or have an interest in the financial credit of an enterprise, succeed in entering the board of directors which controls the administration and operation of the road?

The organization of a joint-stock company does not prevent the possibility of the operation of a railroad being brought into a condition of complete dependence on some other industrial undertaking, nor does it ensure that the directors of a private railroad company shall not be interested in a series of other enterprises whose successful operation is dependent upon their business relations with the railroad, so that the management of the road may be directed and governed, not so much in its own interest as in the interest of some other business, often enough opposed to that of the road. Against such an organization, which by reason of its abundant means, and by effective channels, often leads astray and corrupts public opinion, even the influence of the government is powerless, the principle of equitable treatment of all railroad shipping interests becomes an empty form, and legislative regulation nothing but a meaningless phrase.

Even if it were possible to imagine, that not only in the legislation, but in the organization of the supervisory authorities, the duty could be so thoroughly performed that in reality an effective protection of public interests with relation to

private railroad management were possible, it is evident that with the exercise of such a thorough system of government control, reaching into every branch of the management and operation, and touching on the most vital interests of the corporation, the existence of a profitable and independent system of private railroad management could not be maintained. The regulations enforced by the supervisory authorities restrict and hinder the free disposition of the administration, endanger and damage, under certain circumstances, the earning capacity of the road, and make such demands on its financial capacity that the enterprise of the corporation may become heavily burdened and its income greatly reduced. Whether, in consideration of the want of economy entailed by the costly divided operation and unreasonable competition that accompanies the private system, a paying private operation of the railroad system is possible for any length of time, may be passed by. In any case, private capital will show little inclination to share in an undertaking, the operation of which is subject to extensive restrictions and interference, and the profitable nature of which may be rendered doubtful on account of the rules imposed by the supervisory authorities. On the other hand, the accomplishment of their object by these supervisory authorities is in great measure dependent on the means at command by the different corporations, and their financial retrogression is accompanied with danger to the very public interests which are protected by government supervision. Often enough the authorities find themselves in such a position that they are obliged to abrogate rules made in the public interests in order to maintain the effective capacity of the railroads and avert the public calamity that would accompany their collapse. For the rest, the maintenance of the working capacity of private enterprises depends chiefly on the management by their own officials and certain other circumstances over which the authorities can exercise no influence, so that the risks of the favorable or unfavorable development of the individual undertakings are unavoidably thrown on the effectiveness of the government supervision. While, therefore, an independent and profitable system of private railroads, in conjunction with a careful and conscientious protection of public interest on the part of the government officials, is an impossibility for any length of time, so on the other hand, an effectual advancement of those interests, so far as they are affected by the private railroads,

is only possible when their profitable character, and thereby their ability to fulfil the conditions imposed by the government, is maintained. The private railroad system will therefore be wrecked on the contradiction that is found in the circumstance, that the protection of the important public interests affected by the railroads must be left to private action, and that the same result is expected from the indirect supervision of the government as can only be achieved by direct government administration.

STATE RAILROADS UNDER PRIVATE MANAGEMENT.

The association of government ownership and private operation of railroads is already practiced in cases where government roads have been leased to private managers. Although this system possesses certain advantages over the exclusively private railroads in the matter of government control of the development of the railroad system, its chief failure is found in the perpetual strife between considerations of profit on the part of the lessee and the public interests, and in fact the experience of the practical application of this system, so far, hardly justifies us in calling it a reform in the true sense of the term. The system has existed, as is well known, for a long time in Holland, and has lately been, although probably only temporarily, adopted in Italy, while the idea of applying it to the reconstruction of a group of several necessitous railroad lines in France was entertained for some time, but after due consideration by the national representatives was dropped. The rental of the Dutch railroads has, up to the present time, yielded an utterly insufficient rate of interest on the capital invested, and at the same time it has been accompanied with so little profit to those renting them, that only a few years since an alteration in the conditions of rental in the interest of the lessee had to be granted by the government. The leasing of the railroad lines in Northern Italy to the corporation formerly owning them must be attributed in the main to the difficulty experienced by the government in assuming the immediate operation of the acquired roads.

The disadvantages that accompany the system of leasing state railroads are certainly sufficiently weighty to counter-balance any advantages that result therefrom. The separation of ownership and employment, as effected by the act of leasing, has generally resulted in collisions between the interests of the

owner in maintaining and improving his property and the object of the lessee to increase as much as possible the net profits, attended as a natural consequence with all the evils and dangers to public interests which have been already demonstrated in the discussion of the private system. Against the risk that, in the collision, one or other of the interests must suffer, we may urge that advantages from the leasing of the railroads can only be expected when it is the means of securing business-like operation at the hands of an experienced direction, hereby compassing a more generally useful, thorough and profitable management. This supposition is inapplicable to the leasing of state railroads ; operation by the government, equally with private operation, can only be accomplished by experienced, trained officials, and in this direction the state possesses more abundant resources than are at the command of any private management. The results of government operation are therefore by no means behind the average results of the private management. Inasmuch, however, as government administration and operation entail the simultaneous advancement of other public interests, the increased cost could not be counted as an economical loss. Moreover, except where in special cases combined circumstances enforce such a state of affairs, there cannot be imagined any case, where the state railroads are rendered more valuable by leasing them to private corporations than by placing them under government direction. Even the financial advantages to the state, which are anticipated from the income of a settled rent from the lessee in place of the fluctuating receipts of the management, are imaginary. As long as the returns from operations, the lessee's profits, exceed the rental, there is manifestly no financial advantage to the government ; but as soon as the profits fall below the rent, there is no further security for the government than the working capital of the lessee. The lessee's credit lacks the foundation with which the ownership of the road endows the proprietor, so that the lessee's operation will lack the resources which are at the command of one who is both owner and operator. The longer the lease, the less frequent will be the opportunities of the government to strengthen and complete its supervisory authority. The shorter the lease, the more bitter will be the collision of the two interests, that of the lessee in obtaining the greatest amount of profit from his monopoly, that of the state in securing the preservation and improve-

ment of the property leased. The creation of dividends, by means of increasing as much as possible the profits of the current working year, is, in the private system, the operation by the owner of his own property, always moderated by regard for the preservation and improvement of the enterprise. In the leasing system, however, this consideration is absent, so that the danger of neglecting the maintenance of the permanent way and rolling stock exists, and it demands the sharpest control on the part of the government to prevent a reckless management and the consequent damage to the leased property. This risk is increased by the fact, that the lessor is always obliged to supply the whole stock of equipment, because the lessee, when his lease had expired, would have no further use for equipment he has furnished, while it is to a great extent indispensable to the owner in order that he may continue the operation of the road. To enforce the keeping in order of the working stock would be to encounter such endless difficulties that the most careful supervision would only guarantee partial success. For the government, moreover, the exercise of any supervision over the lessee management is attended by extraordinary disadvantages, as such control is influenced not only by the fiscal interest of the lessor, but also by the protection of public interests. At every interference of the government with the lessee's management, the question would rise as to whether it was to be regarded as the exercise of the government supervisory authority or on behalf of the government's rights under the contract. In the latter case the lessor would be amenable to justice, in the former its action would be final. The legal relations existing between the government and the parties who held the leases of the government railroads would then be based on a mixture of considerations for public and private rights, the determination of which would be attended with difficulties and disadvantages of every description. The duty of the state with regard to encouragement of the development of the railroad system would finally encounter difficulties which could scarcely be avoided if the state railroads were leased out, especially where the holders of a lease of a state road, to which an addition had been built, declined to undertake the operation of the latter. As the independent operation of such short stretches of railroad is generally impracticable, the government would neither be able to work them itself nor to find a suitable lessee for them. To provide for the accept-

ance of the management of such short lines by the lessee on concluding the contract, would only be possible as far as it might refer to roads already so far built or projected as to allow of the terms of their future operation being made in advance. As the experience had repeatedly in Holland has shown, the government will be dependent for the leasing of its new lines on the good-will of the previous lessee and will be compelled to purchase his willingness by offering the lease on such terms as must prove as disadvantageous to the government as they are profitable to the lessee. For the prospective construction of a network of secondary railroads, the outlook for the future would, under such conditions, be very serious.

PRIVATE ROADS UNDER GOVERNMENT ADMINISTRATION.

The conjunction of private ownership with government direction of the railroads; that is, the system of government management of the private railroads, certainly insures the government an easier solution of the problem that devolves on it respecting the development of the railroad system. But the development of this system is only possible where, in addition to private railroad companies, a capable and well organized government system of operation exists. This will explain how it is that this system has been most successful in Belgium and with the home railroads. Originating in the necessity of placing the building of new, or the maintenance of established undertakings, under the direct protection of the state, and entrusting the management to its direct care, it finds in the cause of its origin also its historical justification. A number of railroad undertakings, whose necessities called for the intervention of the government, have found here the only means of their completion or preservation. In the case of an extensive participation by government in private railroad enterprises, the state direction is the only effectual means of protecting its interests. In particular, to insure the payment of the interest guaranteed by the state on the capital invested, without government management of the guaranteed railroads, has been found very difficult as long as the independent direction of the road by the corporation finds no interest in the re-imbursement of the guaranteed interest from the receipts. In those instances where the corporation includes both guaranteed and unguaranteed railroads, the overcharging of the first in the division of the

common working expenses can hardly be avoided except by government management.

This system, undeniably, is accompanied by many disadvantages that show at once its insufficiency. As is always the case where the ownership and management of the road are in different hands, we find here the collision between the interests of the owner, of the speculative stockholder, and those of the management. The state management will be influenced on one side by considerations of government supervisory powers, on the other by regard for the financial interests of the operator. As the two interests are often sharply opposed to each other, the exercise of government supervision would be likely to be influenced by the dutiful regard of the manager for the interests of the undertaking committed to his charge. More serious still are the collisions between the interests of such enterprises as may be under government management with the fiscal interests of the government itself. As a result of the intricate branchings of the home railroad system, the interests of the different roads come in contact so variously in their countless traffic connections, that the development of the traffic on the extended government railroads depends more or less on their competition with the private roads managed by the state. The task of the government, to unite the cultivation of the traffic of its own lines with due care for the interests of the private railroads managed by it, can only be achieved by means of a reasonable and equitable division of the traffic; yet equal consideration for its own interests and the interest of the enterprises managed by it is attended with such difficulty, that neither the extension of the present relations nor their retention for any length of time is desirable, except in case of the most urgent necessity. Among all the forms of government management of private railroads, as the above considerations indicate, that has the fewest disadvantages and difficulties, in which the interests of the owners depend least on the profits of the road.

Therefore, the most favorable phase of this system, so far as the public interests are concerned, is when the state assumes the complete control of the road on payment of a stipulated annual rent. The powers acquired by the government according to such an agreement very nearly approach those that are entailed by complete ownership, the transfer of which to the state is only prevented for a time, because the legal attributes of a joint-stock company will not allow

of the immediate liquidation of the company without serious loss and inconvenience. This form of agreement has repeatedly occurred in the history of the development of the home railroads, and in case of the transfer of the private railroads to government will therefore generally form the basis of the contracts with the corporations which may be the actual owners.

STATE RAILROADS UNDER STATE MANAGEMENT.

The explanation of the different systems of railroad management, as contained in the foregoing descriptions, will make it plain to the reader that only the union of complete ownership and unrestricted management in the hands of the state, *i. e., the pure state railroad system*, can fully secure the fulfillment of the task devolving on the government with regard to the direction of railroad matters. Only by the adoption of this system can the economical advantages of united management be obtained, without this monopoly of transportation compromising the advancement and protection of the interests of the community. The great advantages of complete unity in the management and operation of the railroads are, according to the explanations contained in Section II., so necessary to the economical interests of the country that the only question left is whether a monopoly by the state or by private corporations is to be regarded as the most advantageous form of unity. If a private monopoly, as just described, is wholly incompatible with the proper protection of public interests, but would render all business requiring transportation dependent on the interests and views of a private enterprise, then a government monopoly, one single transportation establishment conducted by the state for all the railroads of the country, appears to be the only possible form in which complete unity of operation can be accompanied by the protection of the interests of the community.

It must not be expected that the effects of the state railroad management on the economical interests of the country will be entirely independent of its financial results. It stands to reason that the revenue of the administration, in state as in private railroads, will make its influence equally felt on the rates of transport as well as on the facilitation of other traffic privileges, that the financial possibility of such administrative regulations must be considered with the entire financial position of the administration; since the

government administration can as little afford, permanently, to do without a suitable interest on the capital invested in the railroads as can private corporations. But it may be accepted, according to the deductions in Section II., that the financial results of a united government administration will be considerably more favorable than the total results of a divided system of private roads. The savings that would be effected by a united administration of all home railroads cannot be exactly calculated, it is true, but the minimum estimate shows such large figures, that in the purchase a burdening of the state treasury in excess even of the probable average profits would be unimportant. Again, in the case of a single management covering a wide expanse of territory, the scale governing the financial admissibility of an administrative regulation is more uniform, and therefore more reasonable than with a multiplicity of divided directions. The unfavorable results of individual lines can, where they belong to different owners, totally prohibit the trial of regulations of uncertain effect, while in the territory of a great organization, where advantage and disadvantage are distributed over the different lines, the average total results would allow of the experiment without hesitation. The nature of the joint-stock company, the great mobility and facility of transfer of the stock causes a tendency in such administrations to attach more importance to a good income for the time present than to the prospect of a good average result for the future. Administrative measures, which, though they may appear valuable to public interests, do not seem to possess any direct present advantage for the enterprise, and will first show it in the increased profits in future years of operation, will find little sympathy among private railroad administrations. In place of the prodigal dividends based on false economy and the starving of the roads, we have, with the state administration, the general economical and the financial interests of the nation, and the latter is prepared, in consequence of the immense resources of a well-founded national credit at its command, to make even momentary sacrifices and calculate on the future gain, finding its natural limits in the possibility of covering the expenses of a well-ordered national economy, including the interest and sinking funds. Financial interests of this description are not likely to come into collision with the eco-

nomical interests of the country, as long as these interests remain in accord with sound financial principles, and the source of revenue rests upon sure foundations. The covering of the current expenses of a state is the first and indispensable consideration of a well-ordered fiscal policy, and the propriety of restricting the financial objects of government operative administrations to the amount of revenue necessary to meet those necessities is just as evident.

The development of the railroad with regard both to the technical and the administrative problems of operation—in opposition to a widely spread notion—would not be in the least retarded by the consolidation of the great railroads into one united transportation establishment under government direction. Such development is not so much dependent on the rivalry among the different managements, but to a great extent on the ambitious feeling of emulation existing among the individuals working together in one management. Any stagnation of this progress is not therefore to be feared by the decrease in the number of administrations; on the contrary, we shall rather find that, without considering the incitement from outside interests, through an intelligent co-operation of the government, through the encouragement proceeding from the leading authorities, through the favorable acceptance and well planned direction and union of individual efforts and experiments, it will be found possible to effect a concentrated united working of all able and earnest forces, and thereby induce a more rapid and successful development. In all administrations whose highest utility can only be attained by a unity of disposition, and whose total results depend on the working together of a number of different officials, according to the experience for instance of the post-office and telegraph departments, progress and development may be achieved to a much greater extent by the union and organized direction, than by the disjointed emulation of individual efforts.

THE OPPORTUNITY FOR ESTABLISHING THE STATE RAILROAD SYSTEM.

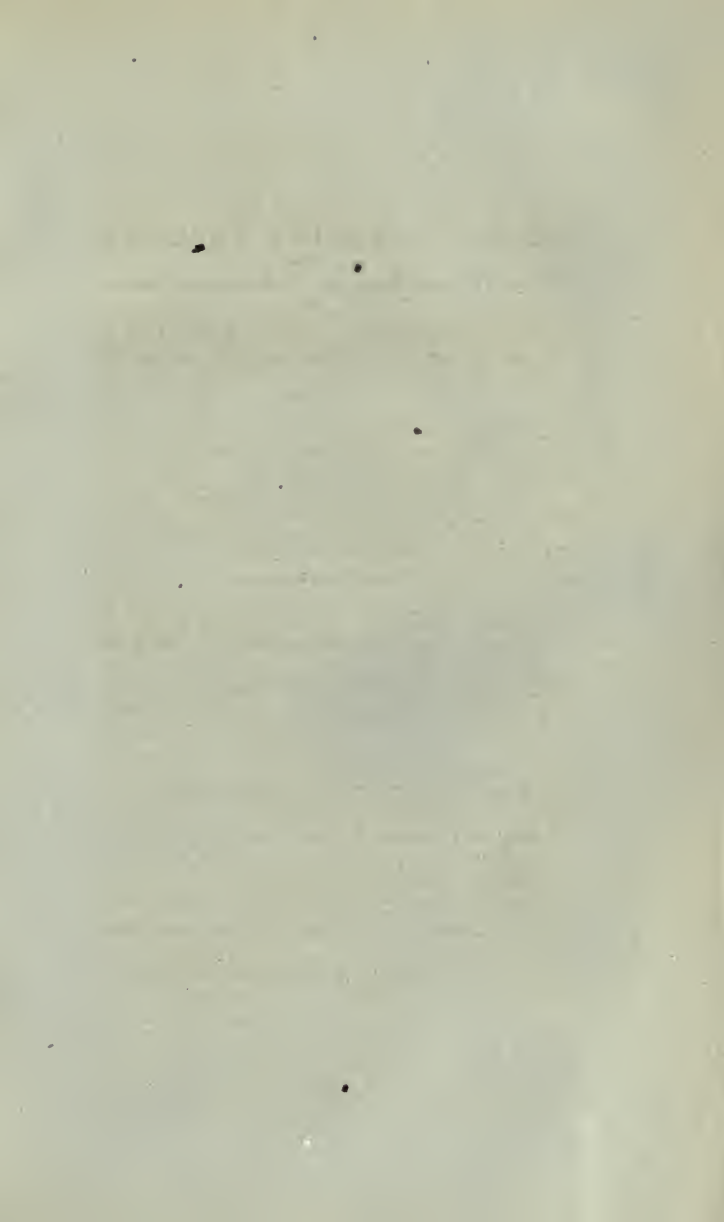
Among all the forms in which the railroad is found in modern civilized nations, the pure state railroad system is therefore the only one that fulfils the requirements of the government railroad policy—uniform regulation within the state boundaries and the advancement of the public interests con-

cerned. Only in this form is possible an economical application of the national capital, on which such great claims are made to effect the construction and operation of railroads; only in this form, moreover, can the direct and effectual protection by the state of the public interests confided to its care be realized; finally, only in this form do we find the possibility of simple, cheap and rational rates for transportation, the certain prevention of injurious differential tariffs, and a just, energetic and effective administration, attentive to the best interest of the whole community. The state railroad system must therefore be regarded as the ultimate form of development of the railroad. How soon this last phase of railroad development will occur in the different countries depends on the characteristics of the country, the form of government, on the degree of necessity, and to a great extent on whether the conditions preparatory to the concentration of the railroads in government hands are more or less favorable. The advantages of concentration are not everywhere equally important, nor are the disadvantages of division alike oppressive, nor are the public interests everywhere endangered to an equal extent by the private operation of railroads. In Prussia we find united in a high degree the pre-requisites of a great, united operating administration conducted by the state. Its limited resources, its economical situation, which demands a strict and careful application of the national capital, necessarily forces the development of the railroad system, and under the present economical circumstances with redoubled power, to the condition called for by the exigencies and the conditions of development, the final energetic accomplishment of which shall be assured by the present measure.

For the accomplishment of the state railroad system in Prussia, the present time also must be regarded as peculiarly favorable, because the condition and prospects of the majority of the home railroads make their acquisition by the state appear desirable, while the favorable condition of the national credit furnishes the means for an arrangement advantageous to both sides. The great fluctuations in the revenues of the separate enterprises, such as have occurred from the vicissitudes of operation during the last ten years, have manifested the uncertain value of railroad shares to such an extent, that the transformation of an uncertain and changeable dividend into a settled and secured income from govern-

ment, after the troubled experience of the recent past, will be to a high degree welcome to most of the shareholders. While hitherto the explanation of the decline of railroad receipts is to be found chiefly in the excessive competition caused by the establishment of new connecting lines, there must be added for the future, besides this competition, the increased power of the already extensive government railroad administration and the enhanced requirements of government supervision, as dangerous to the private roads. Although the government has hitherto spared the private roads from exposure to the full power of the state railroad possessions, such a state of affairs cannot continue for long, especially if the demands from antagonistic voices for the increase of the revenue from the government railroads are acceded to. The attainment of an increase of profits by means of higher rates which would also benefit the stockholders in private lines, the directors of which would certainly immediately follow suit, must be considered impossible. The performance as well as the revenue of the existing government railroad system could only be raised to the desired pitch by a rational consolidation of its roads. Without this, the work hitherto accomplished remains incomplete and faulty in its plan and in its effects on traffic and on the state treasury. To make an end of the present untenable condition of affairs by vigorous measures is a pressing interest of the state that has been repeatedly urged by the government.

In the negotiations concerning the acquisition of the private railroads, it must be taken into consideration that in the hands of the government the object bought, for various reasons, increases to some extent in value. The state is therefore in position to insure to the seller, in giving him his previous income or even a little less, an emolument that he will not be likely to undervalue, and this will be just and reasonable to both parties. To what extent and by what means the state will succeed, with due regard to reasonableness and the government honor, in maintaining harmony with the other party, will be shown by further statements.



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